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THE AMERICAN

FIELDWATOR AND

GRAIN TRADE.

Entered at the Post Office at Chicago, Ill., for transmission through the mails at second-class rates.

A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY
MITCHELL BROS. COMPANY
(INCORPORATED).

VOL. XXIV.

CHICAGO, ILLINOIS, JANUARY 15, 1906.

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Shovel Machines
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All made from our own improved patterns and specially
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Complete Equipments Furnished

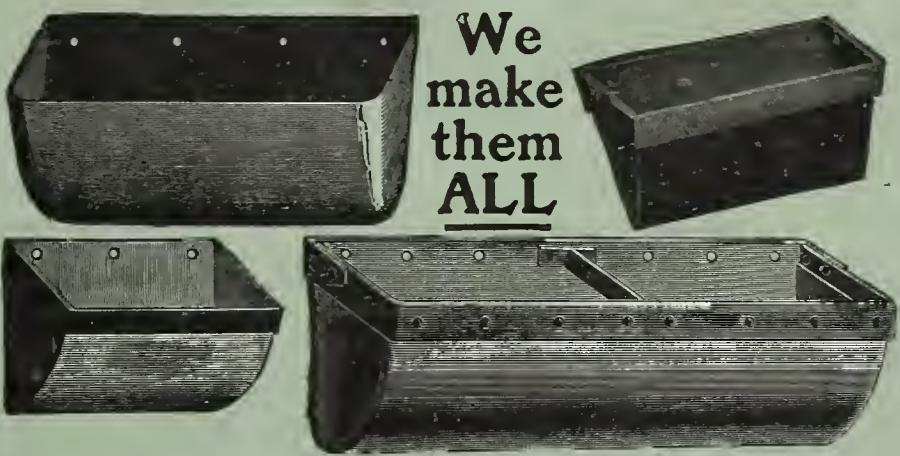
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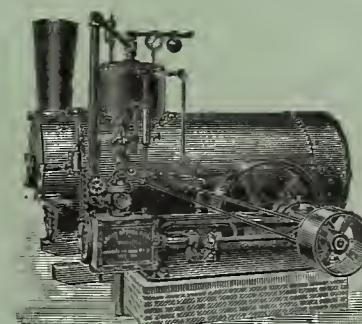
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that's simple and efficient and reliable. Not the whimsical and unreliable gas engine. It's steam and it's

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After all others are tried out you come back to steam for durability and greatest economy. Leffel is the line adapted to grinding, shelling and elevator service. Many styles, horizontal and upright. Quick steaming power that's sure and equal to every duty. Waste coals furnish more than enough fuel. "Leffel quality." Write for large free catalogue and state your wants for estimate.



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for shelling both husked and unhusked corn.



NEW PROCESS CORN CLEANER, WITH SHUCK SEPARATING FAN.



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There's most every reason—so many it takes a book to give them. We can give you a few here, for a starter—then you'll want the book to get them all.

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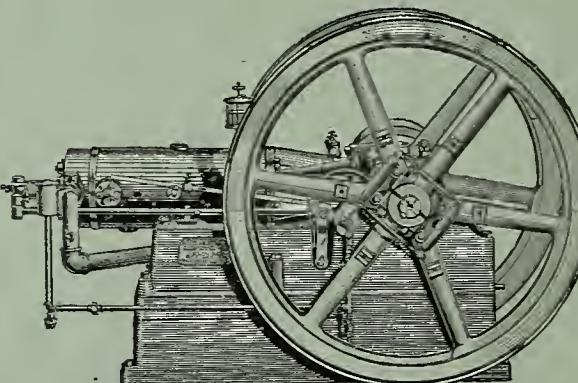
Third reason—they cost less to operate.

Then you can run them yourself; power is up in a minute, shut off and all expense stopped just as quick. You see there is no end to the reasons.

But I. H. C. gasoline engines are better than other gasoline engines. Why?

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The combustion chamber exposes the least possible surface to hot gases.

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I. H. C. engines are simpler, have fewer parts, are easier to control and give longer wear than any other.

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INCORPORATED

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CHICAGO, U. S. A.

Bowsher's All-Around Feed Mill

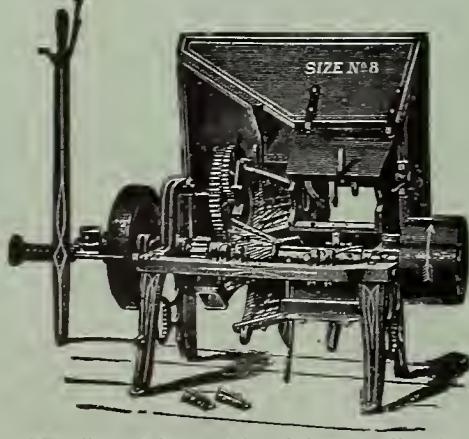
(Sold with or without sack elevator)

It CRUSHES ear corn (with or without shucks) and GRINDS all kinds small grain and KAFFIR IN THE HEAD. Has CONICAL shaped GRINDERS, DIFFERENT FROM ALL OTHERS. RUNS LIGHT. Can run EMPTY WITHOUT INJURY. Ahead of rolls or stones in speed and quality of work.

YOU NEED a mill now. QUIT THINKING about it. COMMENCE to investigate. Give US a chance and we'll tell you WHY we think ours is the best.

SEVEN SIZES: 2 to 25 H. P.

Circular sent for the asking.



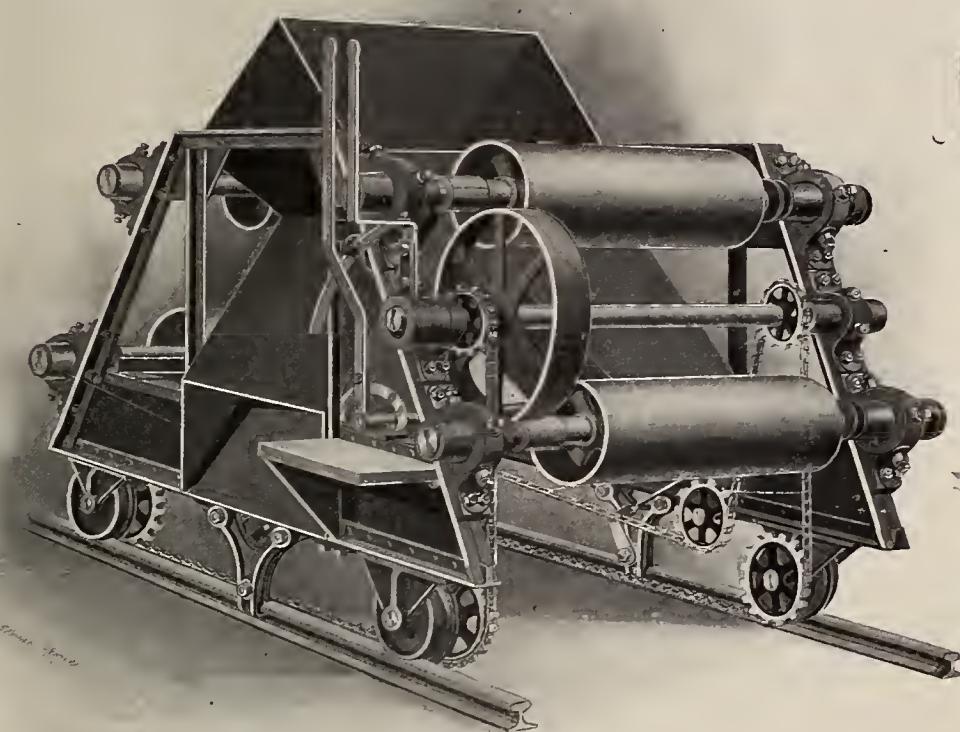
Drive pulley overhung. Belt to it from any direction. Makes complete independent outfit.

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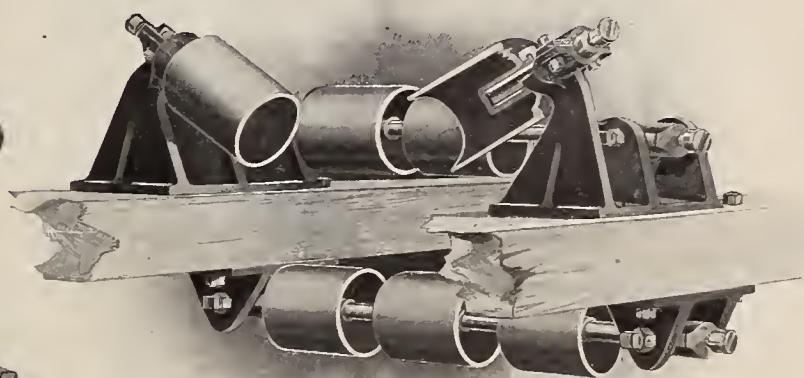
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We manufacture a full line of Trippers, Belt Conveyor Appliances, Power Shovels, Car Pullers, Boots, Buckets, Turnheads, Spouting, Shafting, Pulleys, Bearings, Rope Sheaves, Etc., Etc.

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IMPROVED DUSTPROOF CONCENTRATING AND RETURN ROLLERS

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Just What You Have Been Looking For!

An Apparatus

For Drying All Kinds of Grain
Peas, Rice, Beans, Etc.

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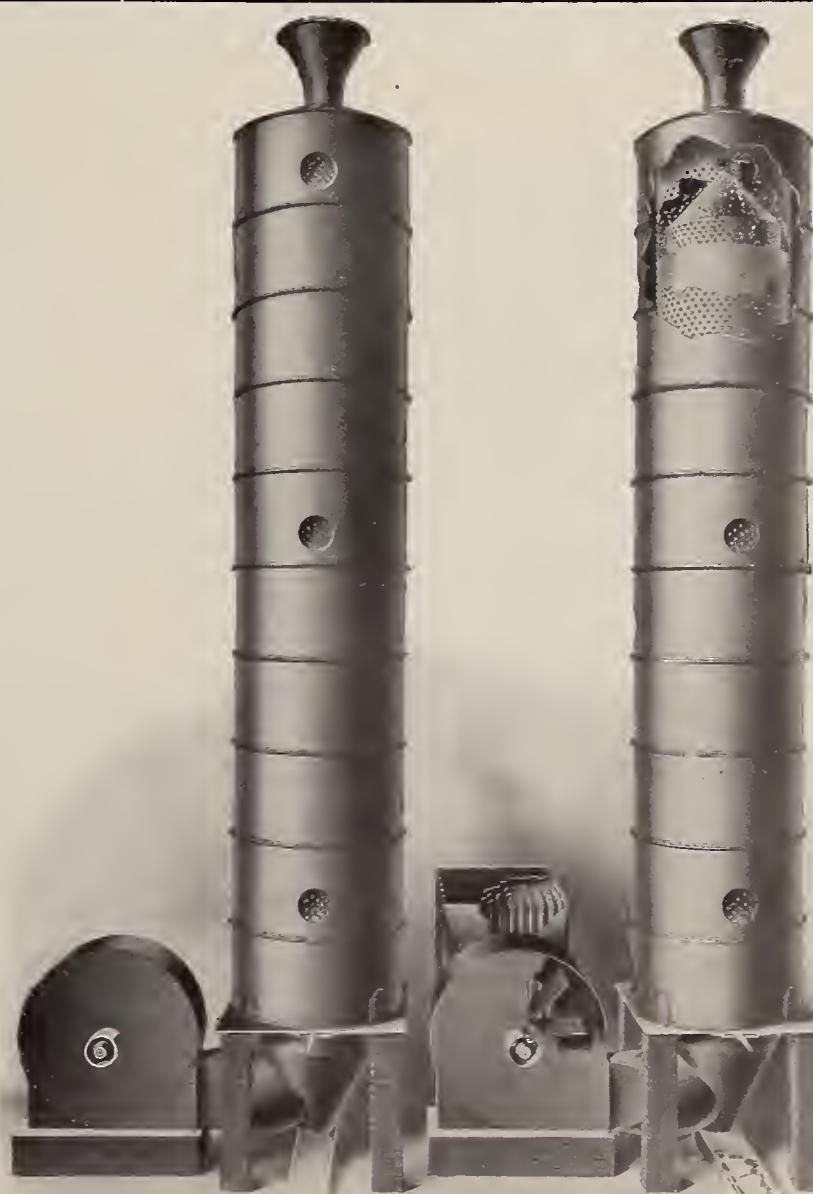
Install a Perfection Grain Drier and be Master
of the Situation

These Driers Are:

SIMPLE IN CONSTRUCTION—Thus lessening cost.
ECONOMICAL IN OPERATION—Paying for themselves in short time.
EFFECTIVE IN RESULTS—No overheated grain in transit.
SAFE IN INSTALLATION—Made of steel—no fire risk.

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Correct Weights

The Bowlus Automatic Weighing Machine will weigh out your grain accurately to the pound, and will dump and register the weight without the services of a weighman. It works automatically and can be adjusted to dump at any weight. Its salient features are

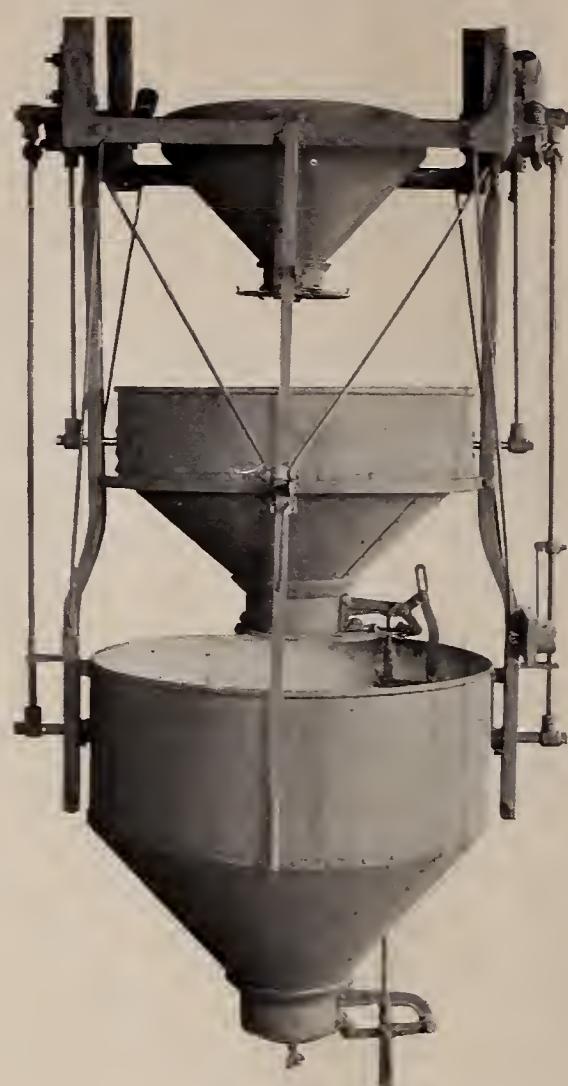
**Accuracy
Simplicity
Durability**

Machine to weigh out 60,000 pounds of any grain per hour goes in space 7 feet high by 4 feet square.

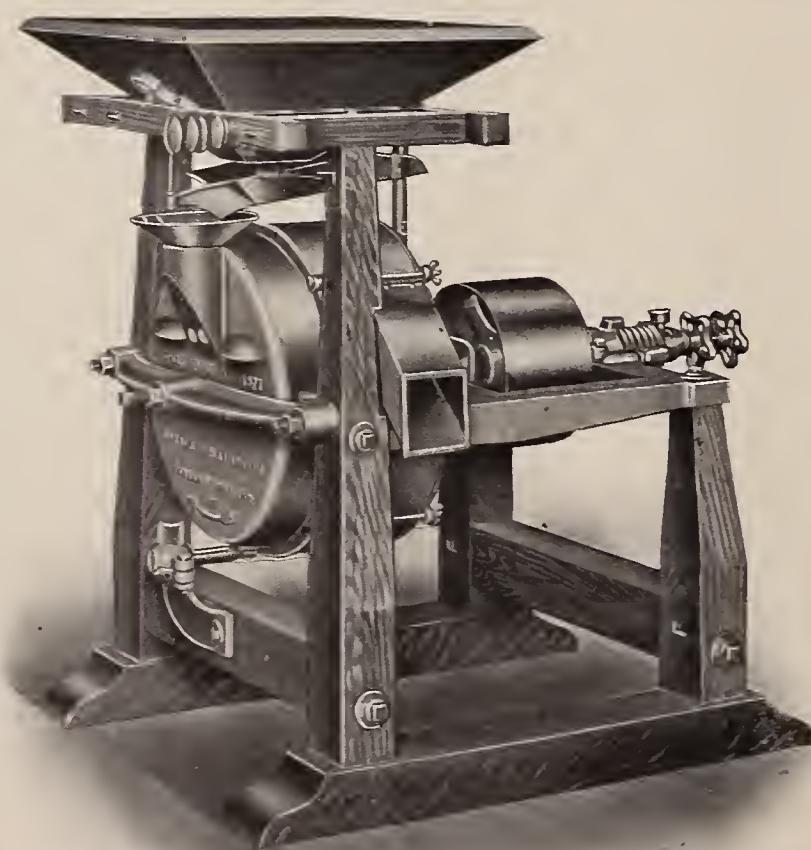
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The Bowlus Automatic Scale Co.

Springfield, Ohio, U. S. A.



SIDE VIEW



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Do custom grinding? Wouldn't it be to your advantage if you did?

In many cases a good buhr stone mill has made money and has been the means of bringing additional trade to the elevator.

Here is what one of our patrons says, who owns four elevators and is operating a buhr stone mill in each:

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GEO. C. WOOD, PROPRIETOR
ELEVATORS
HEMLOCK, IND.
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P. C. C. & ST. L. RAILWAY
WINDFALL, IND.
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22" Farm and Plantation Mill (French Baker)
Ship to me here at Windfall.
This is the fourth of these mills I have bought
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Send for our Catalogue, "Book on Mills No. 490"

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"Western" Warehouse Sheller

Are You Building a New Elevator?
Are You Remodeling Your Old One?

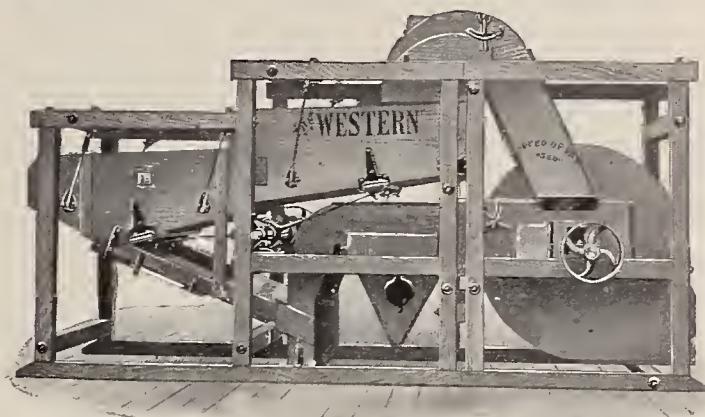
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Plans furnished
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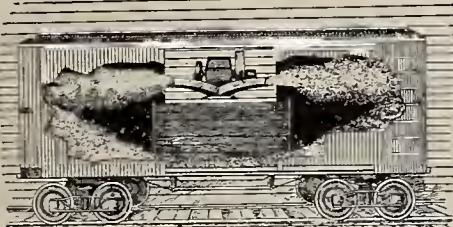
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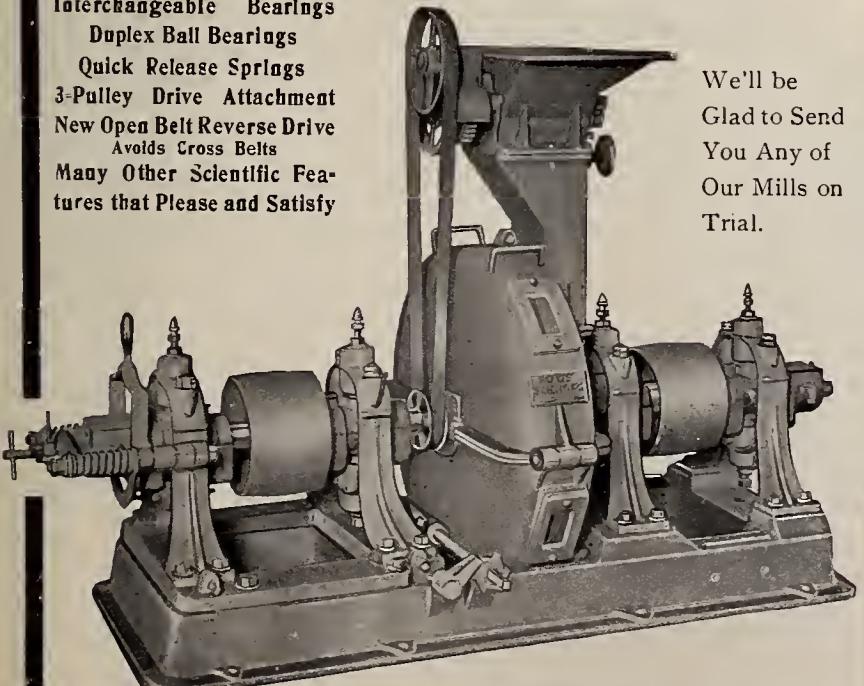
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Exclusive Features
Interchangeable Bearings
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FILLED FIRE BUCKETS

The use of CALCIUM CHLORIDE SOLUTION in place of SALT
BRINE has these advantages:

It does not evaporate It does not become foul
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It is endorsed by insurance underwriters

The Solvay Process Co.'s CALCIUM CHLORIDE is the best, its
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It is the best water jacket solution for gasoline engines.

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10,000 Feet "American Transmission Rope"
sold the Carnegie Steel Co.

Our scientific method of construction combined with
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"The Rope to Remember"

now in service than all other brands.
It stands unchallenged.

"The Best Example of the Rope Maker's Art."

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We design and install complete rope drives. We are experienced in this line, and drives designed by us are successful. We supply the best grade of Manila rope. Our **Machine-molded sheaves** are perfect in balance, accurately finished and free from flaws injurious to the rope.

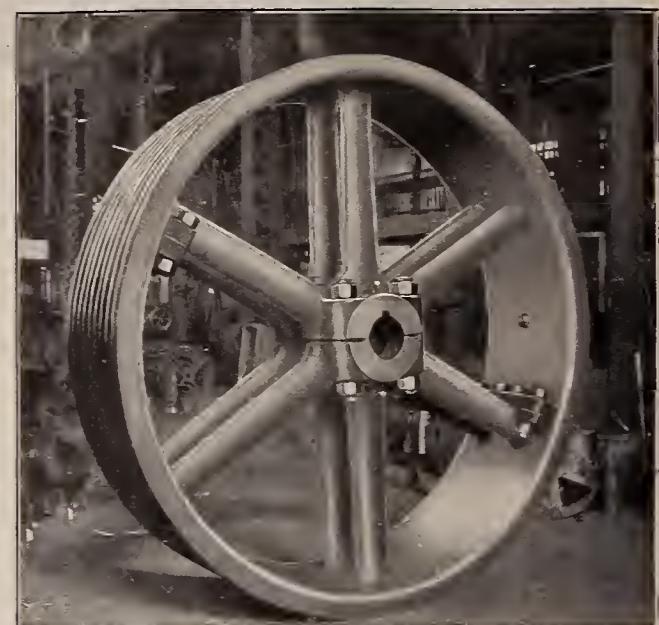
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LEVIATHAN TWICE"

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The "Eureka" Corn Dryer

If you are handling and exporting corn you can make money rapidly with an

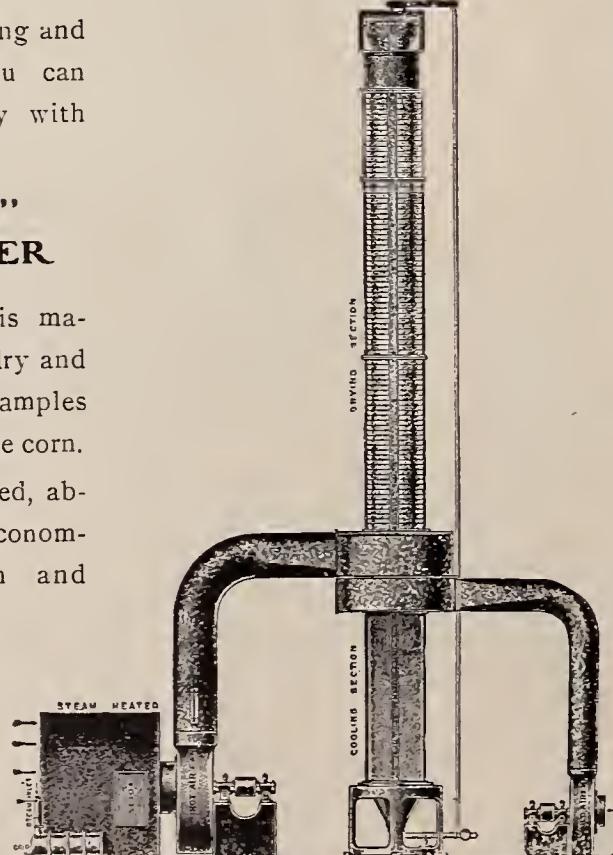
"EUREKA" CORN DRYER

We guarantee this machine to perfectly dry and condition the worst samples of damp and off-grade corn.

It is easily installed, absolutely automatic, economical in operation and moderate in cost.

Many in use. Numerous references upon application.

May we tell you more about it?



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One of the most useful books ever offered to millers.
Indorsed by prominent millers and grain dealers.
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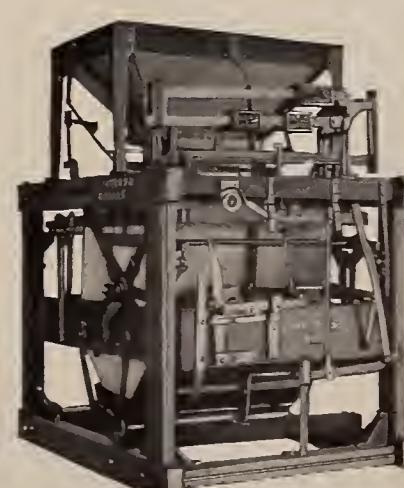
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For the Preservation of all Classes of Metal and Wood.

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JOSEPH DIXON CRUCIBLE CO., - - - JERSEY CITY, N. J.



HAS NO EQUAL

**The McLeod Automatic
Grain Scale**

Weighs grain accurately while running into cars, bins or sacks.

Weights recorded. Reliable and durable. Prices reasonable. Sold on approval. You cannot buy a better scale at any price. Write for particulars.

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**The Stuhr Grain
Purifier Constructing
Company**

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**WE ARE CONTRACTORS and BUILDERS
of GRAIN PURIFYING PLANTS**

And are authorized selling agents for the right to use the only Process Tower ever placed on the market, and covered by patent No. 592,691. And additional patent grants for process applications as advertised up to date are all infringements, for the reason that the original patent contains all the essential points of the so-called process patents as advertised by others. No process application can be successfully made without a Process Tower as covered by patent No. 592,691. These are absolute facts and we invite investigation. We have had practical experience in operating grain elevators and grain purifying plants for years and are therefore well equipped to install satisfactory grain purifying plants on a large or small scale, with all the latest, practical and simple devices necessary in connection with grain elevators to produce the most profitable results.

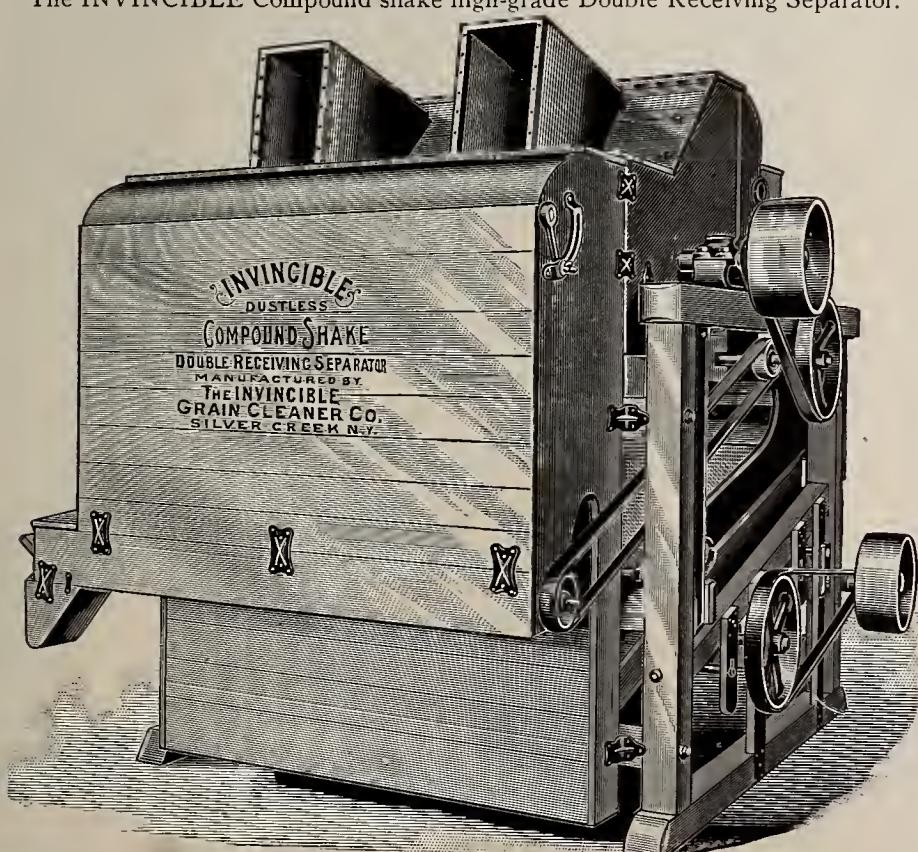
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For further particulars and terms write to us at
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The INVINCIBLE Compound shake HIGH-GRADE Separators. No shake, no tremble, run perfectly steady. Can be placed anywhere in the elevator. The INVINCIBLE Compound shake high-grade Double Receiving Separator.

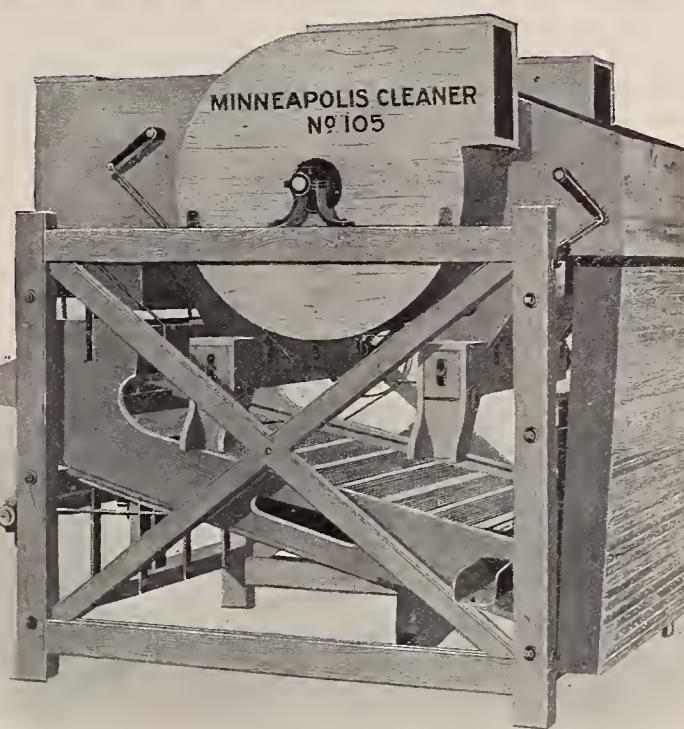


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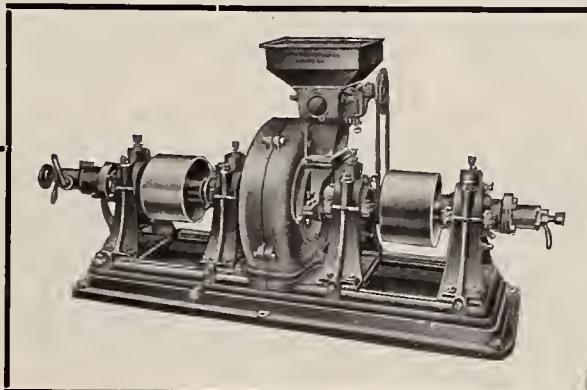
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We are in a position to offer to the grain trade a line of Grain Cleaning Machinery that surpasses anything manufactured.

Write for complete catalog.

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Monarch Attrition Mills

Are the ideal grinders for elevator owners who desire to add a profitable side line to their regular grain business. Feed grinding is profitable if you have a mill that does the work in a satisfactory, economical manner. Monarchs do this because they have great capacity and consume relatively little power.

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Our Latest Catalogue

gives all particulars and tells why the Monarch has phosphor-bronze interchangeable bearings; cable-chain oilers; double movable base; safety spring; quick release; relief spring; special adjustable three-pulley drive; hammered steel shafting; ball bearings, and other features not found in competing mills. It is FREE for the asking.

What do you grind the most of—Let us send you samples for comparison

SPROUT, WALDRON & CO.

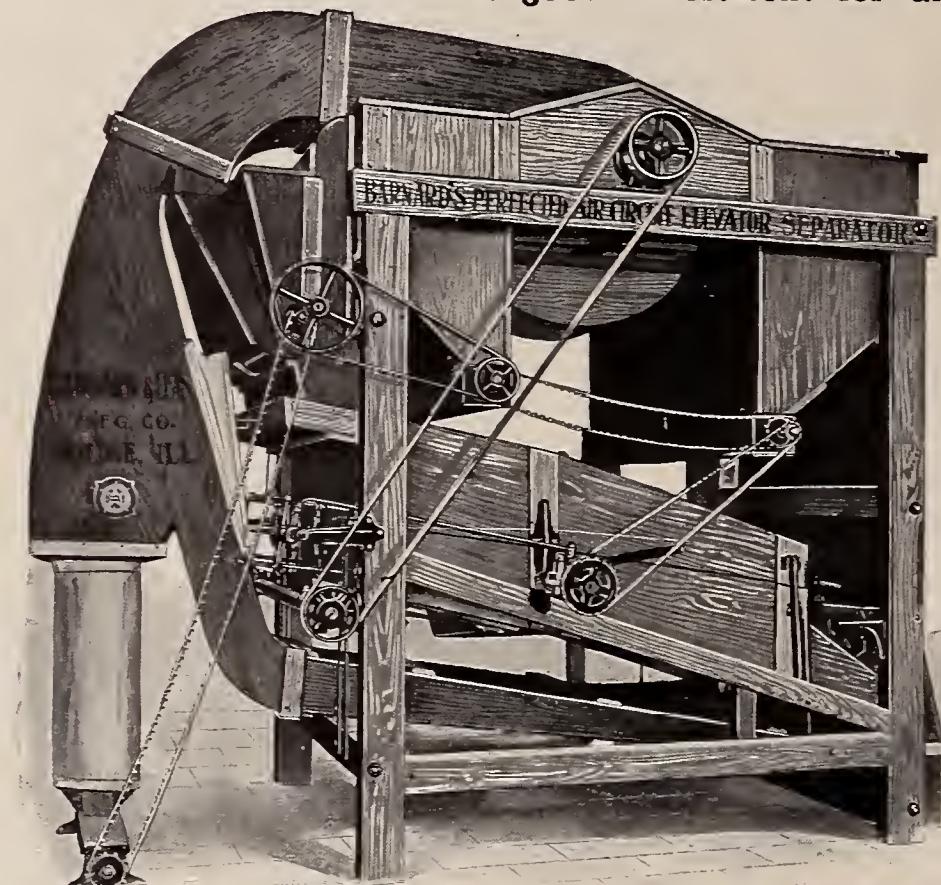
Northwestern Branch:
22-28 and 30 Corn Exchange, MINNEAPOLIS, MINN.

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Barnard & Leas Mfg. Co.

MONEY WELL SPENT

The Perfected Air Circuit Separator is
a good investment for any mill or elevator



MINNEAPOLIS, MINN., Oct. 20, 1905.

BARNARD & LEAS MFG. CO.

Gentlemen:

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Yours truly,

The North Star Feed & Cereal Co.

We have 23 of these machines working satisfactorily in the new plant of the American Cereal Co., at Cedar Rapids, Iowa.

Our latest circular describes it fully.

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ILLINOIS

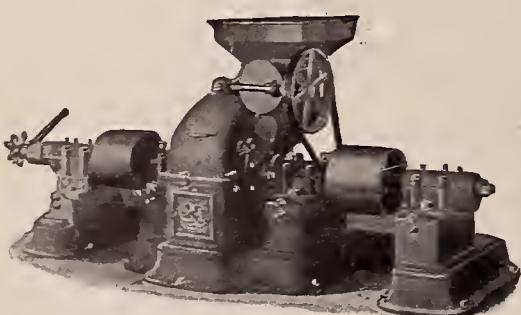
The Unique Attrition Mill

FULL MEASURE IS THE TRADE MARK OF THE UNIQUE

Full measure as to capacity for size of mill, quality of work and beauty of design and finish.

The full measure of satisfaction which users derive from it is a certain guarantee of its perfection in every detail.

The feed grinding season is again here and if you want a machine adapted to your needs and one as near perfect as human ingenuity can make it, order the Unique.



Further Particulars on Application

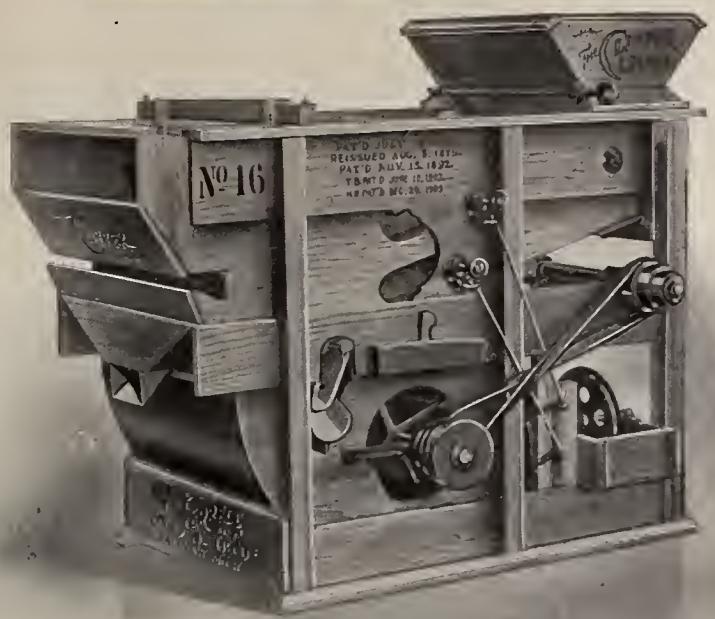
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LOCK BOX K.

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START THE NEW YEAR RIGHT

BY ORDERING A



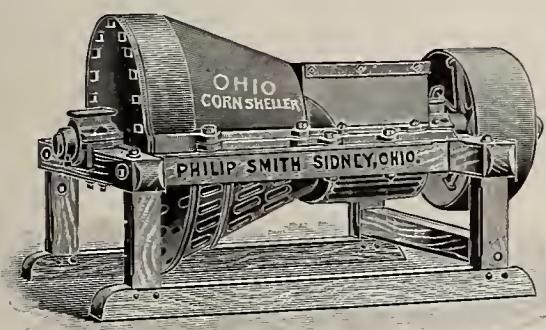
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Your profits as well as your business will increase if you do. "Clipper" Cleaners stand for all that is best in grain, seed and bean cleaning machinery, and we challenge any manufacturer of grain cleaners to produce as good a combination machine as the "Clipper."

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A. T. FERRELL & COMPANY

SAGINAW, W. S., MICH.



Corn Shellers

Corn Cleaners

Drags, Dumps, Etc.

When you want any machinery or supplies for your elevator, write us for prices :: :: ::

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THE WEST LEADS IN EVERYTHING

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For more than thirty years it has been our policy to build and equip grain elevators, "a whole lot better" than the other fellow, and we have done it. That's why we have so many satisfied patrons. Are you one? If not, get in line to-day by sending us your specifications.

GREAT WESTERN MFG. CO.
LEAVENWORTH, KANSAS

CALCIUM CHLORIDE

Anti-Freezing Solution
For Gasoline Engines and Fire Barrels

Absolutely neutral. Will not rust. Has no effect on metal of any kind. Freezing point 54 degrees below zero. Never precipitates nor evaporates. You don't have to refill fire barrels. It's permanent.

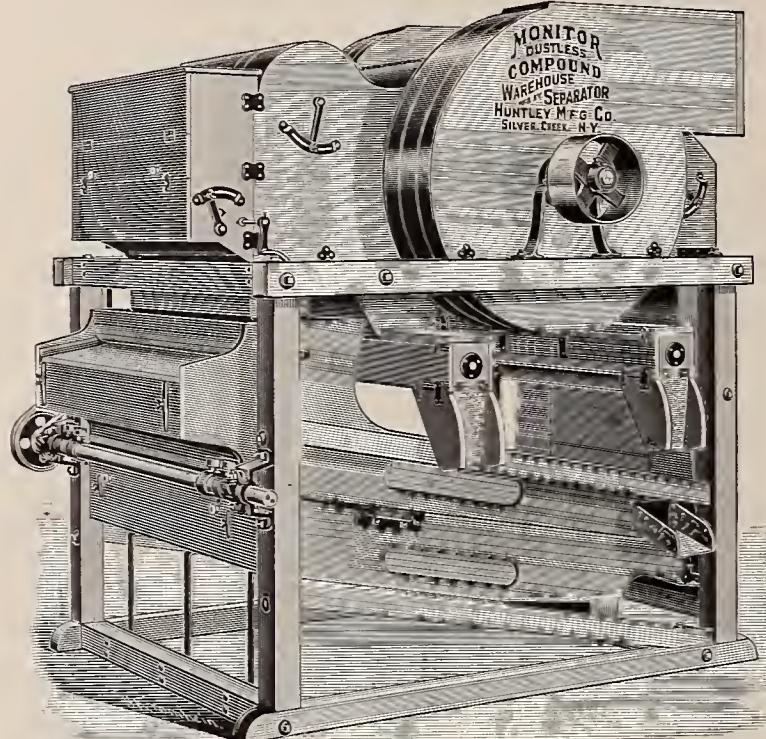
We give a SALOMETER FREE

to all our customers. Write us direct for prices and full information. We manufacture a special grade for gas engines.

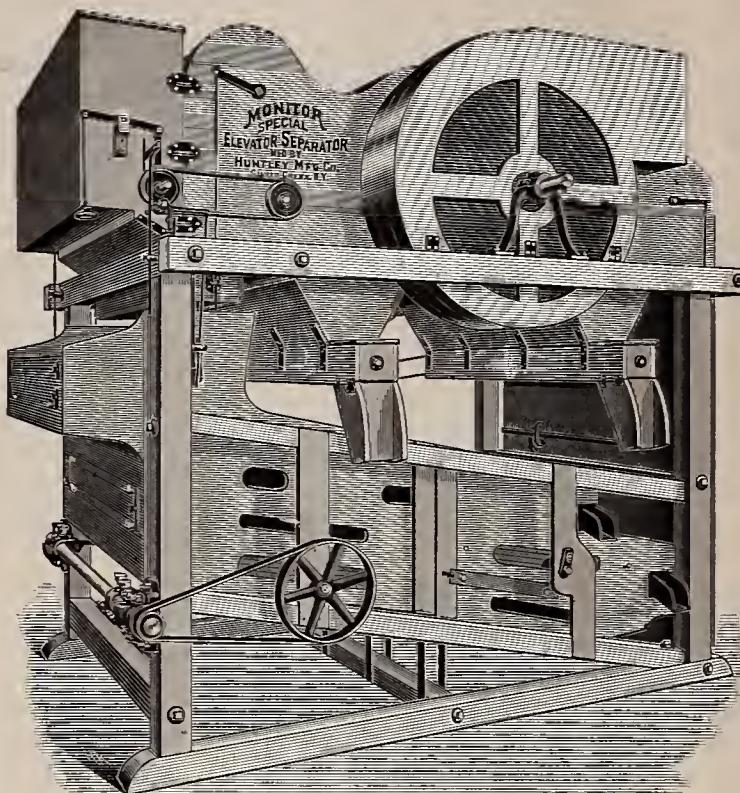
James H. Rhodes & Co.
217 East Kinzie Street CHICAGO, ILL.

A Winning Combination

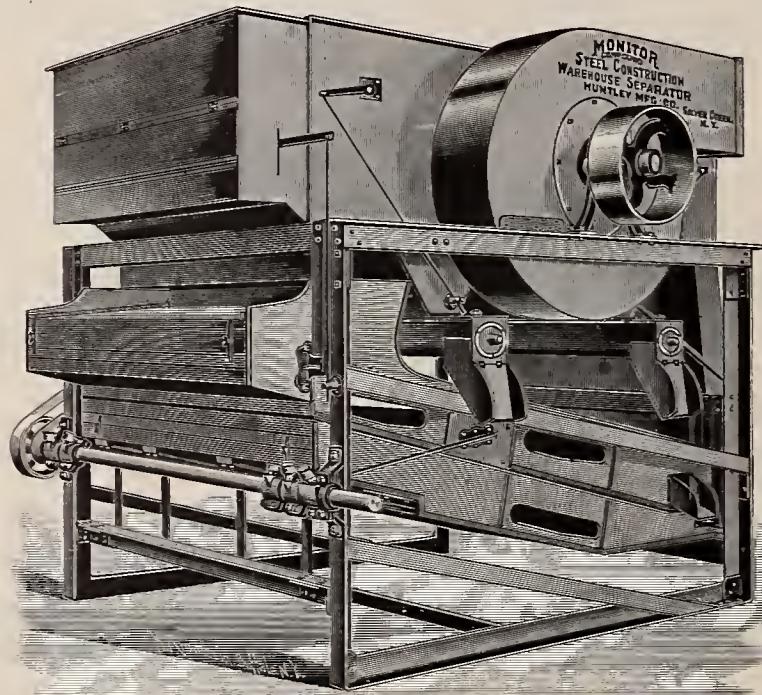
Four Monitors That Defy Competition



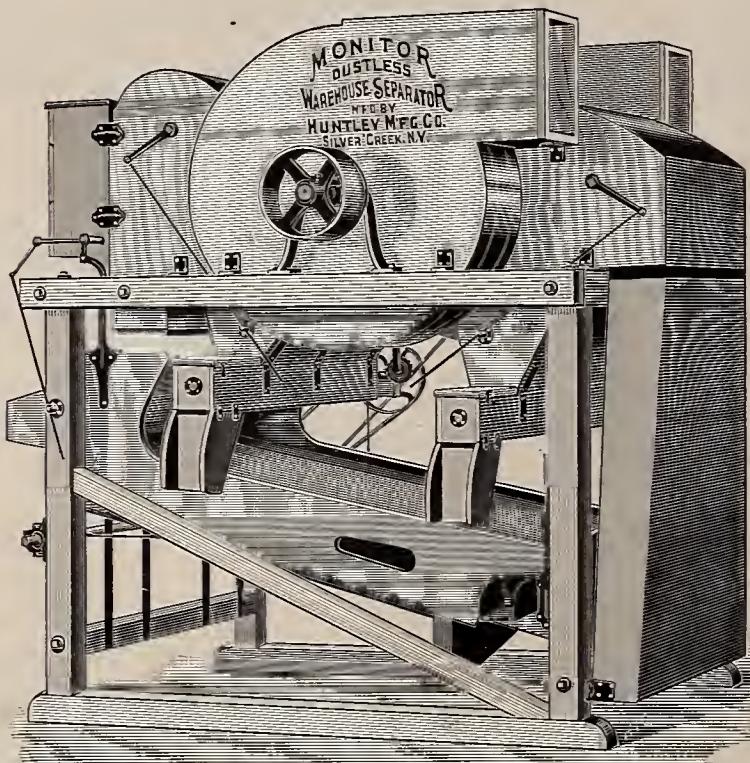
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THE AMERICAN ELEVATOR AND GRAIN TRADE.

A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

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SHIPPING AT BUFFALO.

"Yes, we are laying up the lake fleet as fast as we can and doing the best we can by everything, but it is very much like trying to do a department-store business at a peanut stand."

Making the above quotation from a Buffalo vessel broker, John Chamberlin, in Marine Review of December 28, tells the story of the unprecedented congestion of shipping and grain in the Buffalo harbor at the close of navigation for the season of 1905. He says:

"Of course the winter fleet is welcome. The only regret is that there is no longer the room for the tonnage that there should be, so that when the last boat is finally tied up there will be craft more than a mile up Buffalo River, craft a mile and a half up the Blackwell Ship Canal, craft at the steel plant four miles above the mouth of Buffalo River, craft some miles down the Niagara, not to mention the overflow to Tonawanda of about all the craft small enough to get down there."

"To begin with there is a matter of a little over three miles of grain and flaxseed to winter afloat, something never approached in amount before. Often there is not a million bushels; and even now, with not a bit of corn offered in this way, there must have been some very unusual influences to bring so much here to remain through the winter. For the elevators are all full besides, at rates that are somewhat higher than they have been before, a few steel houses getting 2 cents a bushel for holding to any time up to April 15.

"Had there been corn offering in proportion to the crop, there would have been much more than could

possibly have been taken care of; but the new corn crop is hardly dry enough to handle in that way; besides the special export all-rail rate on corn is taking it to the seaboard so fast that the lakes have been robbed of their dues ever since the crop was ready to move. So we shall have to be content with wheat mostly. As accounted for now there is something over 5,000,000 bushels of it afloat to hold

[For the "American Elevator and Grain Trade."]
NEW MYSTIC WHARF ELEVATOR.

The Boston & Maine Railroad Company's grain elevator on the Mystic Wharf in the city of Boston was burned about a year ago, more or less. Fortunately the railroad company had other elevator facilities, or it would have been impossible to

handle the immense export business that Boston has enjoyed since the new grain crops began to move, some statistics of which you will no doubt have from other sources. Although at the time of the fire the export business in grain was "in the dumps," owing to the short crops of 1903 and 1904 and lack of a foreign demand, owing to our high prices, the company immediately after the disaster began preparations to rebuild, and during the summer the building shown in the accompanying engraving was erected and equipped, and opened just in time to take part in the recent heavy out-movement of grain.

The storage capacity of the new elevator is but 500,000 bushels, but the handling facilities, as will be seen, are

disproportionately large. The building stands on the site of the former elevator, part of it, in fact, resting on piers on the foundation of the burned structure. It is divided into a working-house four bays deep and a storage annex seven bays deep, the length of the house being six bays of 15 feet each, thus providing for handling 45 feet of cars.

Two tracks—one of them running through a carshed along the front of the elevator and the other extending through the working portion—allow cars to be unloaded at four 10,000-bushel receiving legs, all of which may be used for shipping as well.



THE NEW MYSTIC WHARF ELEVATOR OF THE BOSTON & MAINE RAILROAD AT BOSTON.
Designed by John S. Metcalf Co., Engineers, Chicago, Ill.

through the winter, or as much of the winter as the shipper desires, about 2,500,000 bushels of flaxseed and 430,000 bushels of rye, oats and barley. This ought to mean plenty of care-taking through the winter, including much effort to keep the harbor open to movement of vessels, especially fire tugs."

McCord & Kelly, Columbus, Ohio, sent out at the holidays an unusually attractive line of illuminated business cards, three series of which have reached us, any one of which would be worth noting for its beauty.

A complete system of shipping galleries has been built in connection with the plant, most of which is shown in the picture.

Two cleaners of the largest size, with independent elevator legs, are a part of the first story equipment, as is also a double-drum wire-rope car puller.

The scale hoppers are of 1,400 bushels' capacity. Two car-loading spouts, a passenger elevator and a complete dust-collecting system, discharging to a dust house outside the elevator, are included in the installation. Arrangements are made for sacking grain and loading it to wagons. Power is furnished by alternating current motors, of which there are nine in the building.

A No. 6 Hess Drier, by the Hess Warming & Ventilating Co., Chicago, is installed in a separate building, and independent machinery, driven by a separate motor, serves this machine.

While the external appearance of the elevator presents no radical departures from well-known types, the ability to receive and handle grain with all the legs gives it an operating advantage of importance.

Careful attention has been paid to the underwriters' requirements. The windows are of wire glass in metal frames, set into wood frames covered with tin, and throughout the work the idea of getting the lowest insurance rate compatible with economical construction of a building of this type has been uppermost.

The elevator was designed by John S. Metcalf Co., engineers, of Chicago. Contracts were let by the railroad company, and elevator builders were treated to a surprise when the work went to the H. P. Cummings Co., general contractors, of Boston. It is not often that an "outsider" takes a large elevator contract away from those experienced in the business. The result, however, has been most satisfactory. Mr. H. Bissell, chief engineer of the railroad company, had general supervision of the work. The inspection of the elevator and the complete construction of the shipping galleries was in the hands of the railroad company's mechanical engineer, Mr. J. H. Patton.

CHICAGO WEIGHMASTER'S ANNUAL DINNER.

The fourth annual dinner for the employes of the Chicago Board of Trade weighing department was given by Chief Weighmaster H. A. Foss at the Victoria Hotel on the evening of December 16. Some two hundred gentlemen were present, including invited guests, and as on previous occasions, the hospitality of Mr. Foss, as well as that of Assistant Weighmaster A. E. Schuyler, was cordially extended throughout a delightful evening.

The brief speeches of the evening were made by George Metcalf, tallyman of the weighing department, who welcomed the guests; George F. Stone, secretary of the Board of Trade; S. S. Tanner of Minier, Ill.; C. F. Mills, tallyman; J. H. Ware, chairman of the Board of Trade weighing committee; S. C. Scotten, Chicago, and Rev. Jenkin Lloyd Jones, Chicago; Mr. Foss himself presided as toastmaster.

An orchestra composed of employes of the department gave two numbers, and John Winchester of the department received hearty applause for a very artistic vocal solo.

ELEVATOR SYSTEM IN THE ARGENTINE.

Various announcements have reached the United States from time to time with reference to the new system of grain elevators to be erected in the Argentine; but the details have only come to us in an authoritative form through a recent issue of the Review of the River Plate of Buenos Ayres.

The concession has been granted to Arnold J. Alexander and J. R. Davis, who will erect elevators at thirty-eight stations in the principal wheat areas of the South, as follows: Alzaga, Gonzalez Chaves, Vasques, Tres Arroyos, M. Cascallares, Irene,

Aparicio, El Perdido, Coronel Dorrego, San Roman, General La Madrid, La Colina, Coronel Suarez, Curumalan, Arroyo Corto, Pigué, Dufour, Tornquist, Sierra de la Ventana, Peralta, Stegman, Pringles, Krabbe, Laprida, Arroyo Venado, Carhué, Erize, Puan, Goyena, Saavedra, Alta Vista (Empalme), Viboras, Azopardo, Tres Cuervos, Canada Marina, Avestruz, Guatraché and Remeco. To complete the system and to facilitate export, one or more terminal elevators will be built or rented in the nearest out-ports.

The machinery needed will be admitted free of duty, and there will be no taxes to pay, either national or provincial.

It is understood that the beneficiaries of the concession will transfer their privilege to a company with a capital of \$2,500,000, of which Dr. Ezequiel Ramos Mexia, former minister of agriculture, will be local president. This company (or at least the concessionaires) will be allowed to issue the usual form of elevator receipts to depositors of grain and otherwise will perform the duties of public warehousemen.

WALTER FITCH, PRESIDENT.

Walter Fitch, who, on January 8, was elected to the honorable and distinguished position of presi-



WALTER FITCH, CHICAGO.

dent of the Chicago Board of Trade, is a native of Wisconsin, having been born at Fox Lake in 1861. He was educated in the Detroit public schools, and began his business career in grain at Ashland, with the Northern Grain Co.

He came to Chicago early in the '90's, and is at present head of the Board of Trade firm of Pringle, Fitch & Rankin.

Mr. Fitch has served a term as president of the Chicago Athletic Association, besides other offices in that institution.

South Dakota corn in 1905 averaged 38.3 bushels per acre, which is better than most of her trans-Mississippi neighbors.

The Minnesota State Railroad and Warehouse Commission has given notice that it will undertake to prosecute any case where proper complaint is made and supported by evidence that any weights in excess of the legal bushel weight for oats are taken by buyers. The commission has caused a circular to be printed and widely distributed among farmers and grain dealers stating that the legal weight for a bushel of oats is thirty-two pounds and that the exaction of more should be refused. Demands for bushels of more than thirty-two pounds should, the circular states, be reported to the Commission, which would institute prosecution if sufficient evidence were adduced.

[For the "American Elevator and Grain Trade."]
CERTIFICATE OF WEIGHT—ILLEGAL ENDORSEMENTS—SHORT WEIGHT CLAIMS.

BY L. C. BREED.

Where grain is shipped to a mill or grain dealer, subject to destination weights, the receiver should call in a notary or justice of the peace, to note the weighing and issue the certificate. If neither of these public officials is available, then get some reputable merchant to do this. Even if grain is bought on public weights, unless you have no intention of making complaint in case of shortage, the same course should be pursued. It is far stronger evidence if the certificate is made by a disinterested party.

It is very necessary, in most cases at least, when grain is shipped subject destination weights, to also furnish a duplicate to the shipper at the central market; for it sometimes happens that he has a claim to file with the railroad for excess freight; that is, with the railroad over which the grain was shipped to the central market; and he would need, if the grain was consigned, to send the original to the country shipper with his account of sale. This certificate and duplicate should be sent immediately after the weighing, for in case of consigned grain, the account sale cannot be made up until it is received.

ILLEGAL INDORSEMENTS.

Railroad employes, like merchants, are often lax in their ways of doing business; but it often happens that where the initial road is not strict, the terminal one is. Here is an illustration.

A shipper, say, for an instance, either a mill or grain concern, is doing business under the style of The A-B Company. In this case we are taking a concern not incorporated. They have a rubber stamp, and in indorsing an "order" bill of lading, use this stamp, and with a pencil, though sometimes with ink, the clerk puts his initials under it. When the party to whom the car is consigned presents this lading to the terminal railroad, it may "go" and it may not. Some roads would refuse to accept it; and as it is not a legal indorsement, they are not obliged to accept it.

Again, we will suppose it is an incorporated concern, and a rubber stamp is used, and the party indorsing it writes his name in full, in ink. That is not a legal indorsement, there being given no official title of the person writing his name as stated. If the party indorsing is not a member of a firm, or an officer in an incorporated company, he must have a power of attorney and sign as such attorney.

To send bills of lading back for correction means expense for demurrage and loss of the use of the money represented, in the meantime, the draft having been paid in order to get the bill of lading.

SHORT WEIGHT CLAIMS.

In every business claims are bound to arise from various causes, both with and without "malice aforethought." It is, however, important in making up the evidence on which to demonstrate the validity of the claim that the same should be as strong as possible; and furthermore, the claimant has no right to expect a claim to be allowed by the seller unless he furnishes good evidence. Again, in case it is a claim in which the seller might have ground for reimbursement from a manufacturer or railroad company, if through neglect, or want of proper knowledge, the buyer sends faulty documentary evidence, thus preventing the seller from being able to substantiate the claim and collect it, the same reason obtains why the merchant is justified in turning down such claim.

Among the essential things that should be done is to have disinterested evidence—that is, the testimony of parties outside one's own employ and always official certificates if possible. The next best is a notary's affidavit or a merchant's letter. Most claims arise from damage to goods in transit or short weight, some on quality and other considerations.

In case of goods shipped in barrels, bags or other

packages, short weight may arise either at the mill or factory, or through bad handling or an accident in transit, or both. Now, it is absolutely possible to prove whether or no the shipper is at fault, in part at least. We will assume that a certain lot of sacked or barreled goods is received, part of which is in bad order and short weight—what is the best way to proceed? To answer this question the writer will give an account of a case that came within his knowledge.

Seven cars of cottonseed meal designed for export were unloaded at the seaport in the railroad warehouse. The owners concluded to sell the meal to a local party and an order was sent to him. The buyer put on his teams and drew some two or three loads away. On weighing the meal, he found it running short in weight; consequently he stopped hauling it and notified the sellers, sending a list of the weights of each sack he had removed to his warehouse. The seller wrote to the public weigher at the seaport and instructed him to weigh 40 sacks in each carlot (the meal, as is usual, being kept intact as to carlot identity) in the railroad warehouse, but to be sure to pick out only such sacks as were free of holes and thoroughly well sewed and send separate lists of the weights of each lot of 40 sacks and certify to same. When these certificates were received it was found that in each lot several sacks weighed 100 pounds and some overran one or two pounds this proper weight. Others fell short from one to five pounds; a few, ten pounds; and one or two, even fifteen pounds. Before this information was received, the mill of whom the meal was purchased had been notified of the complaint of the purchaser and immediately an elaborate letter was received, stating that the weighing at the mill was correct, why it must be correct, and of the cases they had experienced where buyers who had made complaint were forced to admit it was the fault of the railroad people or the buyer to whom complainant had sold, had taken advantage, etc. Also a labored argument about evaporation of moisture in transit, which might be a pound or so. The upshot was that at the close of the letter notice was given that no claim would be entertained, but buyers were kindly advised to take the matter up with the railroad company.

The sellers wrote the seaboard buyer to go on hauling the meal as fast as the public weigher could weigh it, and that another invoice would be sent, based on the result of the weighing. The mill was confronted with a copy of the weights of the 40 sacks in each car and also invited to put in their own weigher, but this they did not do.

These 2,800 sacks were second-hand centals such as are usually in packages for cottonseed meal, and from the first it was assumed that some short weight might have arisen from handling, through rents, bad sewing or use of hooks by the railroad employes. As the meal had been purchased f. o. b. cars at the mill, there was no recourse on the mill, except for this absolute proof of faulty weighing; and after a good deal of correspondence and an intimation of a lawsuit, the mill paid about two-thirds the loss by short weight and the railroad company the other third.

A few months afterwards, a lot of 4,000 sacks meal was purchased of another mill and shipped to England. This lot was complained of on matter of weight and a list of the weights of each sack sent, but there was no means of as surely proving the mill at fault in this case as the receivers failed to pursue the method referred to.

ELEVATORS IN SOUTH DAKOTA.

South Dakota, the secretary of the Railroad and Warehouse Commission says, has elevator storage capacity for 18,000,000 bushels of grain. The number of elevators in the state in June, 1905, was 871, since which time 127 houses have been added to the license-paying list, making a total of 998 operating under state law on December 1.

In regard to complaints against the railroads, owing to the congestion in the shipment of grain, the Commission says that many of the charges

of discrimination in the distribution of cars are unfounded and that every available car has been put into use. The investigation of these complaints shows that the railroad companies distribute the cars on the basis of the amount of grain on hand in the various elevators of the same community. The Commission reports that no intentional discrimination has been found to exist. The Commission, in fact, reports that it has had no difficulties to encounter from the railroad companies in amicably adjusting matters complained of by shippers.

M. M. FREEMAN.

One of the announcements made on the Chicago Board of Trade January 1 was the entrance into partnership of M. M. Freeman with H. H. Freeman to succeed the well-known hay and grain firm of H. H. Freeman & Co. The new firm will be known as Freeman Bros. & Co., with offices at 66 Board of Trade.

Mr. Freeman returns to Chicago after an absence of about five years. He passed the first years of his life in New York state, coming to Chicago in 1868 when eleven years old. He first engaged in the railroad business, spending two years in the offices of the Northwestern Railroad, and later for a number of years was head of one of the departments in the general offices of the Illinois Central Railroad. It was only a step there from the rail-



M. M. FREEMAN, CHICAGO.

road into the grain business. In 1886 Mr. Freeman started a grain and hay commission business on the Chicago Board of Trade, which he continued with unvarying success until 1902. This was the origin of the business to which he now returns.

The new firm has strong financial resources, energy and zeal, and with a staff of able assistants they stand equipped to render as good service as the market affords. The business will continue on the same lines as formerly, general commission in hay, straw and grain.

TROLLEY LINES AS GRAIN CARRIERS.

The trolley interurban railways have been carrying fruit and express in many parts of the country for some time past; but the managers of the Toledo, Bowling Green & Southern Traction Company operating between Toledo and Findlay, Ohio, are said to have decided upon the innovation of carrying grain direct from the farms to the warehouses by putting in stub loading tracks at the farms, as in some parts of Michigan the trolley roads have for the fruit shippers. The scope of the plan is not entirely plain from the information at hand; but it would appear to be the intention to deliver the grain to the Toledo terminal warehouses and not simply to a given point on track in a particular town on the line of the road, as has been the custom of the Toledo & Western (trolley).

Examine every bearing in the elevator before closing for the night.—McCotter.

[For the "American Elevator and Grain Trade."]

ASSOCIATION WORK.

BY HARRY W. KRESS.

I am convinced that there are a great many things which have come to me through my period of study in the field at Toledo that make it apparent how helpless shippers and receivers would be without association work, meaning local, state and national. There are so many things in the way of mistakes and misunderstandings, both conscious and unconscious, that come between shipper and receiver, that without association work, and especially that of the National Association, our efforts to compromise matters would be fruitless in the majority of cases. Some think that because they have paid their dues for a number of years, and have had no occasion for arbitration or assistance from the National Association, they can better afford to discontinue paying their dues as regular members of ten dollars per year. Now, these gentlemen never stop to consider what the National Association has accomplished in fighting issues which have been a detriment to the grain trade of the past; and one most prominent before our eyes to-day is rate regulation and discrimination by railroads. The last issue, mentioned by itself, is of tremendous weight and bearing to the grain trade.

This lack of spirit in association work is similar in a great many cases (with more lenient exceptions, however) to the carrying of fire insurance, in that a man will carry fire insurance for quite a while and never have a fire. For example, we will say he has been carrying insurance on his elevator to the extent of \$10,000; but being fortunate in not having any fires, he reduces it to \$7,000, and, on reconsideration, further reduces it to \$4,000; and finally decides to carry none at all and become his own insurance company. He goes along for a while at this rate; but, unfortunately, his place catches fire and he is either a ruined or a crippled man.

Now, for the sake of comparison, we will say that when he reduced his fire insurance from ten to seven thousand he withdrew from the National Association; and on reducing from seven thousand to four thousand, he withdrew from his state association; and, finally, cancelling his four thousand to become his own insurance company, he withdrew from the local association to become an individual association, which I am sorry to say has never accomplished anything. However, he becomes entangled in a disagreement with a receiver and is forced to fight out matters on his own ground; whereas had he retained his membership he would have had the means to put his case before an impartial tribunal, such as the arbitration committee of the Grain Dealers' National Association.

The more lenient exceptions which I refer to are that by paying the National Association its required fee—\$15—for non-members in matters of arbitration, he is allowed to have his case arbitrated; but the insurance companies will not allow him his original \$10,000 insurance if he were willing to pay up his back premiums. Therefore, I think that if a party has once been a member of the National Association but withdraws, he should be made to pay up the difference in dues in the event that he desires the assistance or arbitration features which he as a member would be entitled to receive. There is no doubt that the Eastern section, starting from Chicago, is very strongly supported both by receivers and shippers; but this is not the height of ambition for a national association, for we must bring back to the fold our Western brethren. Until this is accomplished we can never consider our work a success.

As I have been in Toledo since the 15th of July, and being, as a member of the Ohio Association, an affiliated member of the National, I have had the opportunity of meeting John Courcier, secretary of the National; and I want to say, before leaving Toledo, that he has impressed me as a man of strong determination, aggressiveness, fearlessness and with a will that will certainly make the Grain Dealers' National Association a success. The recently published statistics of the National Asso-

ciation's work in the last six months convince me that all talk of its "lost prestige" is a nightmare of the past.

FLAXSEED AND ITS PRODUCTS IN THE UNITED KINGDOM.

"The steady increase in the consumption of flaxseed by the seed-crushing industry of the United Kingdom within the past few years has been without precedent in the history of this trade. Over-sea transportation is practically the exclusive source of supply. The 40-odd thousand acres in Ireland and the few hundred acres in England upon which the flax plant is annually cultivated are devoted principally to the production of fiber, and the relatively small quantities of seed obtained as a secondary crop are considered by crushers a negligible factor in general calculations. Practically the entire annual crush consists of imported seed, and hence the growth of the industry in recent years is indicated by the fact that from 11½ million bushels (56 pounds each) in 1901 the quantities imported for consumption have increased year by year until in 1904 they amounted approximately to 20 million bushels," says a London contributor to the December number of the *Crop Reporter*.

The seed crushing industry of Great Britain consists of about 60 mills, consuming both cottonseed and flaxseed, the crush of latter in 1904 for the first time exceeding that of cottonseed. The production of oil exceeds the local demand, and from 6 to 10 million gallons are exported annually to Australia, Canada, Brazil and Egypt, but so great is the home demand therefor, large quantities (200,000 tons) of oil cake are still bought in Germany, Russia and the United States.

Of 21,993,871 bushels (456 barrels) of flaxseed imported only 812,664 were re-exported, so that the British consumption of seed is practically identical with the imports. The latter come almost exclusively from the Argentine, British Indies and Russia. Of the qualities of the flaxseed imported, the authority quoted above says:

The flaxseed appearing upon the English markets from the chief sources of supply is classified in commercial transactions into five distinct varieties, each distinguished from the others by differences in the oil content of the seed, in quality of oil yielded, cash value of seed, etc. Russian seed consists of two varieties, known, respectively, as "Baltic" and "Black Sea" seed. Two varieties are likewise imported from British India, one "Calcutta" seed, the other "Bombay." The fifth variety is from Argentina, all shipments from that source being known commercially as "Plate" seed. Baltic seed, raised in North Russia and exported principally through the ports of St. Petersburg, Riga and Libau, yields oil finest in quality but smallest in quantity, the average yield of oil, according to the statement of a prominent English crusher, being about 27 per cent of the weight of the seed. Practically all flaxseed now imported from Russia is Baltic seed, the imports of Black Sea seed—grown in South Russia and shipped through southern ports—having ceased in recent years entirely. Even the supply of Baltic seed has greatly declined as compared with former years, and only from 1,000,000 to 2,000,000 bushels annually are now looked for from that source. Of the three sources from which the United Kingdom derives the bulk of her flaxseed supplies, Russia is now the least important.

The variety of flaxseed which ranks, in quality of oil yielded, second to the well-known "Baltic" variety is that grown in Northern India—in Bengal and the United Provinces. Taking its name from the port of shipment, it is known commercially as "Calcutta" seed. The oil content is much higher than that of Russian seed, the average yield of oil, on the authority of the crusher referred to above, being about 32.5 per cent of the weight of the seed. Flaxseed grown in Southern India, i. e., in Bombay, Berar, Hyderabad and the Central Provinces, and known as "Bombay" seed, gives even a heavier yield of oil, averaging, it is said, about 33.6 per cent of the weight of the seed. Of the Indian seed imported into the United Kingdom, the bulk is of the "Calcutta" variety, the Bombay seed going mostly to the continent of Europe. On an average for the past five years, almost 6,000,000 bushels of Calcutta seed have been taken by the United Kingdom annually, against less than 200,000 bushels annually from Bombay. British India, once the most important source of supply for flaxseed, now occupies second place, the change in position

being due not to a decline of production in India, but to the remarkable increase in the attention paid to this crop in late years in Argentina.

Argentina, or, as it is commonly called, "Plate" seed, yields on an average about 31.5 per cent of its weight in oil. In oil-producing properties it therefore outranks Baltic seed, but is deficient as compared with that imported from Calcutta and Bombay. The quality of the oil, however, is generally regarded as somewhat inferior to that made from seed of either Russian or Indian origin.

The most striking feature of the British seed industry is the amazing rapidity of the growth of flaxseed shipments from the Argentine, which from 2,352,738 bushels in 1900 grew to 11,618,054 bushels in 1904, or 57.5 per cent of the total net imports. In the meantime, the receipts from United States declined (same years) from 492,188 bushels in 1900 to 7,268 bushels in 1904, and from unenumerated countries from 1,118,133 bushels in 1900 to 483,701 bushels in 1904.

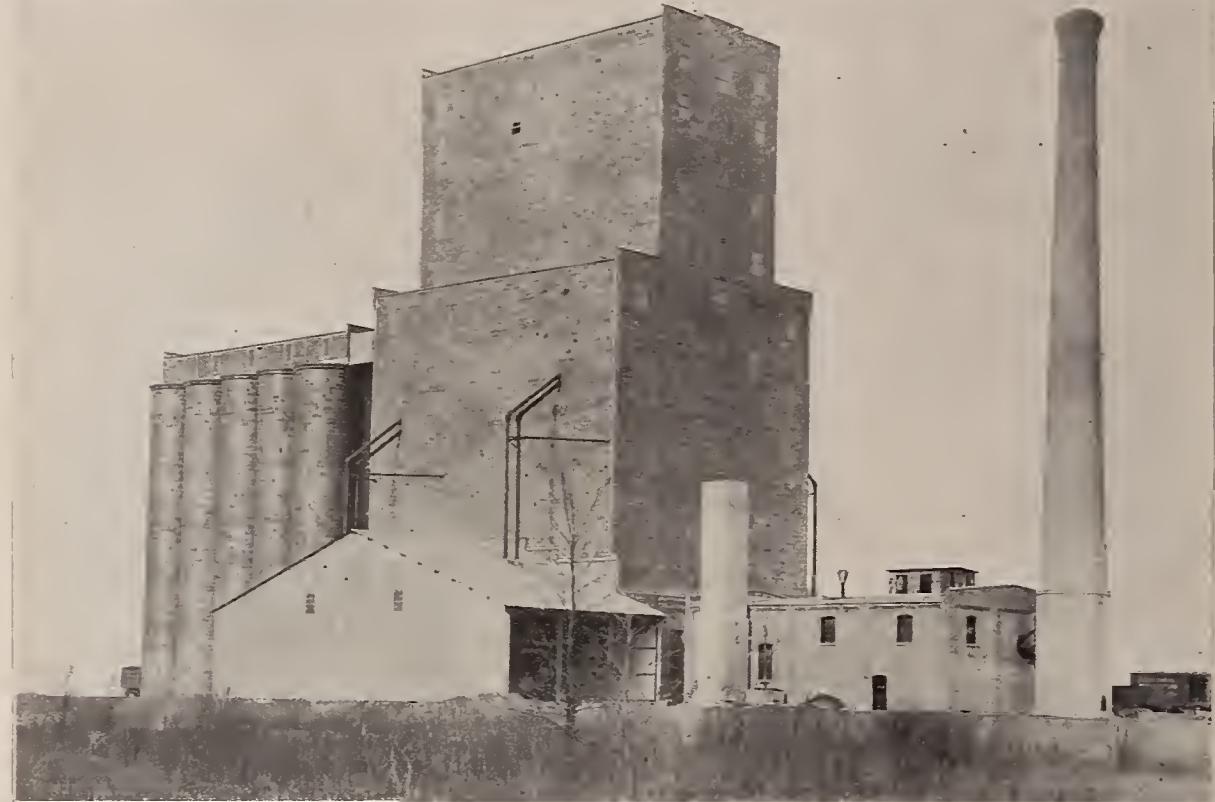
The process of crushing seed in the United Kingdom is the same as in the United States, but while

NEW ELEVATOR AT INDIANA HARBOR.

The L. S. & M. S. Ry. Co. has added another to the growing list of elevators lining the south shore of Lake Michigan, where the trunk line systems to the East converge and to which the "outer belts" are bringing grain from the West for transfer without sending it through Chicago elevators. Indiana Harbor is one of the newest of these transfer points, but destined to grow in importance, as will all of its many neighbors.

This transfer elevator, which was designed and erected by the Barnett & Record Company of Minneapolis, follows the lines of construction now in vogue as the best practice, being composed of a fireproof working house and tile storage tanks and bins. The general plan and location of parts is well shown in the engraving herewith.

The working house is 64x84 feet in size, with the storage section divided into forty-five bins with a



L. S. & M. S. RY. CO.'S TRANSFER ELEVATOR AT INDIANA HARBOR, IND.

the value of the oil is greater than that of the cake, the British crushers do not extract the oil so completely from the cake as do the Americans; and consequently, as the feeding value is affected to a certain extent by the oil fat it contains, the British cake brings a higher price from feeders than the American. Says the authority twice above quoted:

The consumption of linseed oil cake in the United Kingdom during the past five years has averaged about 470,600 tons annually. Of this about 58 per cent has been of domestic manufacture and about 42 per cent imported. The demand is steadily increasing, the indicated consumption having grown from about 421,000 tons in 1900 to 586,000 tons in 1904. The popularity of this product as a cattle food is evidenced by the fact that, notwithstanding the heavy increase in the output of the domestic mills within the past three years, there has been no slackening in the import trade. The principal sources of supply are, in the order of their importance as shippers, Germany, the United States and Russia. Smaller quantities are also imported from the countries of Northwestern Europe, from Spain, Argentina, British India and Canada. On an average for the past five years, 34 per cent of the total quantity imported has been drawn from Germany, 28 per cent from the United States, 25 per cent from Russia and 13 per cent from all other countries combined. Of the oil cakes from the chief sources of supply, those from Russia command the highest price because of the high percentage of oil they contain. Those from Germany usually rank next in value, commanding slightly higher prices than American-made cakes. According to customs House statements, the annual average declared values (per 2,240-pound ton) of linseed oil cakes, as laid down at the ports of discharge in the United Kingdom in 1904, were, viz.: Russian, \$31.44; German, \$30.61, and American, \$29.12.

total storage capacity of 300,000 bushels; while the tank or bin section consists of fifteen tile circular tanks in three rows of five each, the intermediate spaces also being used for storage, giving a total capacity of 227,000 bushels.

As in most heavy construction in this neighborhood, these buildings all stand on pile foundations. The working house is a steel structure with outside enclosing walls of brick and tile, and all floors and roofs of fireproof tiling. On each side of the building is a track shed 48x98 feet in size for the receiving and shipping of grain. Under the tile tanks are three tunnels in which the belt conveyors are placed and operated, and over the tanks are two conveyors, also connected with the working house by steel covered bridges.

The power house is of brick with tile roof resting on steel frame work. The brick stack completes the plant.

The working house contains six scales of 100,000 pounds' capacity each and six garners above of equal capacity. Each of the two sets of three receiving tracks in the sheds have two receiving hoppers for each track, making twelve in all. The grain from cars is discharged into these hoppers and carried on conveyor belts to the receiving legs, each receiving hopper being entirely independent of all others except that each set of three is served by one conveyor. There are four stands of receiving elevators and two for the cleaners and for shipping, with a capacity of 10,000 bushels each per hour.

The cleaning machines consist of three No. 11

Monitor Oat Clippers, one aspirator, two No. 9 separators.

The power house has a battery of three 78-inch by 18-foot boilers, two boiler feed pumps, heater, 18x42-inch twin Corliss engines, electric light engine and generator. The transmission machinery is of the latest design, and each machine is furnished with its own friction clutch, so that it can be started or stopped at the will of the operator independently of all others.

The house is provided with car-loading spouts, so that all six scales can be used at one and the same time for loading out if desired, thus making it both for receiving and shipping a very rapid working house and fully up to date in every respect in regard to equipment and arrangement of same.

KANSAS GRAIN DEALERS' ASSOCIATION.

The annual meeting of the Kansas Grain Dealers' Association will be held at the Midland Hotel, Kansas City, on January 18 and 19, beginning at 2 o'clock p. m., except that the directors will hold a meeting at 10 o'clock a. m. The program is as follows:

THURSDAY AFTERNOON, JANUARY 18.

Meeting called to order by President L. Cortelou, Muscotah, at 2 o'clock sharp, followed by the President's Annual Address and reading of minutes of previous meeting.

Address, "What Is a Reasonable Length of Time for Reinspection," by Hon. J. W. Radford, Chief Grain Inspector, Kansas City, Mo.

Address, "Who Should Be Responsible for Loss Occasioned by Delay, After First Inspection, Before Reaching Destination," by F. P. Lint, Atchison, Kan.

Address, "How to Reduce Shortage on Out-Turn Weights," by R. B. Miller, Kansas City, Mo.

Appointment of Committees; Adjournment.

FRIDAY MORNING, JANUARY 19.

Meeting called to order at 9:30 o'clock.

Address, "Association Work," by Hon. M. P. Dunlap, President National Association, O'Fallon, Mo.

Address, "Suggestions for the Improvement of Grain Car Equipment," by J. G. Goodwin, Board Trade Weighmaster, Kansas City, Mo.

Address, "Advantage to Our Members of an Association Emblem," by E. I. King, Logan.

Address, "Coercion the Very Last Resort Among Grain Men; Diplomacy in Front," by F. B. Bonebrake, Osage City, Kan.

Address, "Foundations of Success as a Grain Man," by T. L. Hoffman, Enterprise, Kan.

Address, "Freight Rates," by J. C. Robb, Wichita, Kan.

Address, by W. S. Washer, Atchison, Kan.

FRIDAY AFTERNOON, JANUARY 19.

Admittance only on presentation of card. Secretary's Annual Report; Secretary's Financial Report.

Address, "Relation of Receiver to Shipper," by J. T. White, Ada, Kan.

Address, "Relation of Receiver to Shipper," by Geo. Scouler, Superior, Neb.

Reports—Arbitration Committee, Auditing Committee, Committee on Resolutions.

Election of Officers; New Business; Unfinished Business; Adjournment.

All papers and addresses will be subject to discussion and each member is requested to come prepared to take part.

The rate at the Midland Hotel, on the European plan, is from \$1.50 to \$2.50 per day. The Victoria Hotel, located on the corner of Ninth and McGee Street, three blocks from the Midland, offers a rate of \$2 to \$2.50 on the American plan. The secretary suggests that members engage rooms at once, as it may be difficult to secure rooms at either of these hotels on arrival in the city. He will make reservations for those who notify him, stating which hotel is preferred, price to be paid and hour of arrival.

The latest wail on the Pacific Coast comes from a Ritzville, Wash., kicker, who issues a circular to the "embattled farmers": "Farmers, we are being filched. We are being robbed in various ways and many of us don't kick because our neighbors don't complain. We all feel that the sack problem is a big tax, but many don't see that it is a plain case of robbery. In Adams

County this year about \$250,000 was spent for sacks; the same last year, and more each year to come. This is an annual waste. Some wastes are necessary. Is this one? Let us put ourselves in a position to answer this question correctly. It means an enormous saving to all, not for one year alone but for every year in the future. It means a saving in money, in time and in muscle. We propose to use grain tanks, granaries and elevators. The waste on sacks for one year, if saved, will be enough to purchase these things which will last for several years." Next.

EVIDENTLY IN A WRECK.

The bird of passage that settles in the marshes, to continue the following day on its long journey, may accidentally at some point in its career collide with a load of buckshot and be later served, truffled, on some epicure's table. No one thinks to inquire, or cares very much over, where and how he met with his distressing accident.

A car loaded with grain seemingly starts out with



A "WINGED" FREIGHT CAR.

as much uncertainty as the bird of passage. It may arrive at its destination in good condition, or it may get "winged" in some such manner as the car shown in the illustration. It would be probably difficult to tell just how the distressing accident occurred, but the owner of the grain won't eat all his bird truffled, as a large part of it was undoubtedly left scattered along the railroad track.

When a car, probably sound at point of shipment, can arrive at destination in the condition shown in the picture, what can be said of those that are started out in unsound condition and badly coopered?

The car shown was R-J 50,238, and was loaded with oats. It was unloaded at Calumet Elevator A, South Chicago, Ill., on December 12, 1905. We are indebted for photograph to H. A. Foss, weighmaster Chicago Board of Trade weighing department.

The Chanute Grain Company, Chanute, Kan., with a pile of cobs at its elevator that is nearly the size of that building and constantly growing larger, is compelled to hire men at \$2 a day to haul them away and burn them. Fuel must be cheap out there to waste it in that way.

The Santa Fe road in Kansas finds that the car doors distributed to grain dealers along the line have been used by certain gentry of the general public in lieu of lumber for building sheds, cow houses, etc. A number of arrests having been made, some of the missing doors are finding their way back to the right of way.

[For the "American Elevator and Grain Trade."] DAILY BULLETIN REPORTING BAD ORDER CARS AND IMPROVED SUPERVISION OF WEIGHING.

BY L. C. BREED.

The Merchants' Exchange of St. Louis recently inaugurated the plan of posting on a blackboard provided for that purpose on the floor a daily report of cars arriving in bad order, and giving the nature in the case of each car (of which number and initial is furnished) in the bad order condition; and if seals are broken, this is also noted. In addition to this, the Department of Weights will furnish the receiver with a certificate citing the condition of said car or cars, on application. The following advantages are secured, viz.:

1st. Receivers on examining the postings each morning may learn if cars consigned to them are in bad order, and of the nature of the fault.

2d. Inasmuch as the inspectors examine the cars immediately on arrival, the railroad companies have not the opportunity to cover the cars before the examination by the inspectors. Before cars are run to the yards for unloading or holding, or for reconsigning to other roads or to elevators, it is customary to make such repairs or adjustments as will prevent further shortage. This, of course, is proper; but if cars on being unloaded are found to be in good order, it makes it more difficult to locate the cause of a shortage and to fix the blame for it on the proper party; i. e., the shipper or railroad company.

3d. In case of claims against railroads, one of the most important factors is to furnish proof of the responsibility of said railroad for the loss or damage suffered, and if this proof is an official certificate, such as the Merchants' Exchange can and will furnish (same being a matter of record on the books of the department), it is accepted by the railroads as good and satisfactory evidence. This leaves to be considered only the question of the extent of the loss and the proper remuneration for it. It is right that railroads should require such documentary evidence, since it is a physical impossibility, from the immense extent of the business and the multitude of claims constantly arising, to sift out the valid from unwarrantable claims without it.

Again, in some cases it is possible to know that the fault lies with the shipper, since the inspector sees the car just as it left the shipper, unless some accident has occurred while in transit. There would, of course, be some cases where the blame would be quite difficult to fix.

This practice will result in correcting, in some degree at least, carelessness on the part of both shippers and railroads, since each will learn, through the different receivers reporting such cases, of the nature and extent of bad order cars. According to the report of this Department, of 35,518 cars examined, the records show that 11,312 (or 31 per cent) were in bad order or not properly sealed. These defects were distributed as follows:

	No. of Cars.	Per Cent.
Leaking at grain door.....	2,340	6.5
Leaking over grain door.....	283	.7
Leaking at the box.....	2,268	6.3
Leaking at end window.....	414	1
Not properly sealed.....	6,007	16.6
	11,312	31.1

The Department of Weights has now been in existence three and one-half years, and at the present time is a well-equipped organization. It consists of eight members of the Exchange, appointed by the directors, the selection being made with especial reference to practical knowledge and experience of these members, who serve without compensation, as is customary on exchanges. The Department has, however, a competent supervisor and corps of deputies under salary. As a result of this work, great and constant improvement is going on with a view to establishing for St. Louis as good (if not a better) reputation for reliable weights as is enjoyed by any market in the country. Unfor-

tunately this market suffers some handicap in that there is a double weighing charge, and though both taken together are not as great as the cost of the service in some other markets, still it seems (without explanation) strange that this should be the case. It comes about, however, through the state law, which requires public supervision of weights, and as the state of matters regarding weights was quite unsatisfactory, the Merchants' Exchange took up the supervising of these public weights. The recent decision of the Supreme Court confines the work of the state weighers solely to public elevators; consequently there is, in case of private elevators, mills and team tracks, but one weighing charge.

Owing to lack of police protection on part of railroads and the city, the Exchange last year placed its own private watchmen in the yards allotted to team track delivery, to prevent thieving and also to enforce the rules of the Exchange, and it is now impossible for grain to leave the yards without being weighed. Negligence and carelessness on the part of teamsters has been overcome and thousands of dollars' worth of property saved during the year.

We take the liberty to append to the above the following from a bulletin on St. Louis weights, issued by Secretary Wells, of the Iowa Grain Dealers' Association:

The following is an extract from a letter written by a St. Louis commission firm to one of our members, to wit:

"We note what you say about having carefully weighed and checked your weights on this car and demanding that same be placed where only Merchants' Exchange weights are obtainable for you. Of course, we would be pleased to follow your instructions to the letter, though, as we have indicated to you heretofore, we often have to sacrifice the price of grain in endeavoring to place it where only Merchants' Exchange weights are obtainable. This is from the fact that quite a following of our good feeders' trade are not under the supervision of our Merchants' Exchange Bureau, and, therefore, are not able to furnish these kinds of weights, and oftentimes we are able to secure better prices for our grain from this trade than from the elevators who furnish Merchants' Exchange weights; but it is always our desire to please our customers and if you prefer to have your grain sold only on Merchants' Exchange weights, we will be pleased to act accordingly and follow your suggestion."

You will please note especially the statement, "oftentimes we are able to secure better prices for our grain from this trade than from the elevators who furnish Merchants' Exchange weights."

I want to impress you with these facts: That Merchants' Exchange supervision of weights means that a deputy, who is absolutely in the employ and responsible to the Merchants' Exchange, personally stands at the scales and enters in his book the weights of your grain. He keeps careful watch of the scales to see that they weigh accurately and that all the grain goes into the scales. He examines the cars placed for unloading and makes note of their physical condition and makes record of the car seals. A scale inspector is continually employed to inspect the scales thus supervised, and a force of private watchmen, having police authority, are employed by the Merchants' Exchange to protect the property of the shipper in the railroad yards.

When your grain is unloaded at elevators and tracks having no supervision, you simply have weights of no authority, no record of condition of cars and car seals, no services of watchmen or scale inspector. If you have shortage because of leakage or stealage in transit you have no recourse on railroad company because you have no official evidence of condition of car or car seals. The most premium that you can expect on sales, as suggested by this commission firm, would not exceed one-half cent per bushel and a shortage of only a very few bushels will absorb such premium.

The shipper to whom the letter mentioned was addressed had a shortage of 3,870 pounds on a car previously shipped and sold without Merchants' Exchange supervision of weights. It is only merely a question of honest weights, but of general protection.

Don't fail to give your commission firm instructions with each and every car shipped to St. Louis that it be sold only where Merchants' Exchange supervision of weights can be obtained.

Iowa corn is reported in very bad condition in parts of the state.

THE MINNEAPOLIS CLEANER.

A machine that has proven very serviceable as a dustless warehouse and elevator cleaner is shown in the accompanying illustration. It is designed for cleaning wheat, oats, barley or any other grain, and a number of special features are embodied in its construction.

Instead of joint belts, rods are used, which extend the full length of beams, and cross-bars, making the frame extra rigid and assuring the perfect alignment which is necessary to make an easy running machine. All shafts are the very best make, and the shaker boxes, which are subjected to considerable usage, are lined with brass bushings, thus adding materially to their lasting qualities. The sieves are all adjustable in the shoe and can be changed to finer or coarser ones while the machine is in operation.

The hopper is constructed with a regulating valve operated by lever on the side of the post, and an oscillating valve operated by two levers, or arms,

bility. It is a confirmation of our theory that the "three-corn safety valve" would sound the death knell to successful manipulation in corn, which in turn means the re-establishment of a commercial market that is alike beneficial to the producer and the consumer. With the closing of the December deliveries you can safely count on a natural corn market, influenced entirely by commercial and proper speculative conditions; and we believe you will find it to your advantage to use it without fear for hedging purposes.—Van Ness Brothers, Chicago, December 27.

ANOTHER FREAK.

The latest suggestion for freak preferential legislation proposed in England is that by Louis Sinclair, M. P., who suggests that in place of a duty on wheat imported by Great Britain the government should favor the Colonial grain by paying the freight, with a view to having it enter the United Kingdom on a level with the home product and



THE MINNEAPOLIS CLEANER.

connected with each side of the shoe, thus assuring a positive even feed at all times.

As the grain passes into the first suction leg in a thin sheet, the suction draws out the light impurities—dust, chaff, etc., and drops it out of the first separating tip. Then the grain drops, and by a simple spreading device is spread evenly over the scalping screen, which takes out all straws, sticks, etc. From here the grain passes over a sieve which extends the entire length of the shoe. This takes out all the foul matter coarser than the grain, and underneath is a fine screen which removes cockle, small seed, sand, etc., and the grain passes into the last suction leg, where a complete separation of the remaining impurities is made, the grain passing down the leg while the foul stuff is dropped into the second tip.

All impurities deposited from the grain into the separating tips are taken to the side of the machine by conveyors through automatic valves. These prevent a rush of air into the machine, assuring a positive and even suction at all times. The manufacturers, the J. L. Owens Company of Minneapolis, Minn., furnish one scalper, one main sieve, coarse, medium or fine and one cockle or fine seed screen with each machine; extra sieves are sold at reasonable prices.

A local speculator of prominence, James A. Patten, is quoted by a morning paper as stating that he was going to stop trading in corn because of the rule permitting the delivery of No. 3 corn on contracts at 5 cents discount. This is a rule that we worked long and hard for, and the statement referred to above shows clearly its desira-

with that much advantage over the foreign grain.

Canadians, as a rule, do not approve the scheme. It would, of course, be welcomed by the Canadian farmers, who would, of course, absorb the entire amount of the freight bill; but Alex. McFee of Montreal says in the Star newspaper: "This is not a farmers' proposition. One objection to it is that it would restrict the transportation of our grain to British and Colonial vessels only. I do not think that this would be a wise course. Restrictions of this kind are always to be avoided. But in my opinion the principal objection to it is that it is more or less a sort of charity to Colonials. The British government will pay our freight for us. Well, we don't want the British government or anybody else to pay our freight; we are able to do it for ourselves. This preference business is not at all a question of the English people making sacrifices for us. It is altogether and purely a matter of their own interests. If they find it to their interest to get control of the Canadian wheat crop they will take measures to give it a preference in their markets. Otherwise things will go on as they are and finally the greater part of our wheat will go into the United States, to be handled by Americans and be sold at American prices. It is for Englishmen to decide whether or not it is to their interest to give us the needed preference, and if they decide to do so it will be merely for their own interest and not through any spirit of charity toward us."

Edgar Judge, an old grain exporter, said: "I wonder if Mr. Sinclair is aware how much of a preference the payment of ocean freight on wheat between Canada and England would amount to.

It is no unusual thing to have your grain carried from Montreal to Liverpool or other British port for two cents per bushel or even less; indeed, there are times when they take it for almost nothing."

Robert Meighen, of the Lake of the Woods Milling Co., said: "Apparently Mr. Sinclair does not understand the Canadians' position. We are not paupers. We are not asking the British taxpayer to pay the freight on the products we export to him. We are merely in favor of a policy of preferential trade within the Empire, which policy we believe is in the interest of both Canada and the Empire. There is no Canadian who will stand up and advocate the taxation of the poor man's bread. We want a policy adopted which will divert from the United States to our western prairies the agricultural emigration of the British Isles and Continental Europe. This will make Canada a nation without any extra tax to the British consumer."

[For the "American Elevator and Grain Trade."]

ELEVATOR INSPECTIONS.

BY E. P. ARNOLD, C. E.

Owing to recent disasters in grain and mill elevators, the insurance companies have supplied their inspectors with a standard inspection sheet, of which the following is a copy. As the companies have instructed their men to examine risks with this sheet on hand and to report on each and every clause in the same, this copy of the sheet must be of interest to elevator owners and operators, and will give them due and timely notice of what will be examined by insurance inspectors:

INSPECTION REPORT.

ELEVATOR.

Condition of Elevator:

Dirty
Dusty
Practically fair
Fair
Good
Bearings:
Are they running cool
Free from oil and dust
Are wooden supports oil-soaked
Does oil drip on floors
Drip pans under bearings
Fan and tightener bearings
Tanks and Boots:
Are tanks clean
Boots set in tanks, how oiled
Is oil and dust found at mouth of oil tubes
Bucket Belts:
Do bucket belts rub at edge in boot, leg or head
Do buckets scrape on front or sides of legs
Is space below conveyor belts free from dust
Is there a man on top of machinery floor at all times when machinery runs
Cleaning Machines Condition:

Separators
Clippers
Smutters
Cyclones, are metal spouts to furnace protected by automatic cut-off valves
Water Barrels and Pails:

How many barrels on each floor
Are they full of strong brine
Are there two pails to each barrel
Fire Extinguishers:

Are extinguishers air pressure, non-freezable or acid machines
If acid machines, are they tagged with date when last filled
How are acid extinguishers protected from frost in cold weather
Watchman:

Record of clock
A. D. T. service
Fire Pump:

Capacity
Condition
Hydrants
Hose
Nozzles
Steam Pipes:

Contact with woodwork
Covered with dust
Connection to siphon in cellar and tanks
Lumber, Car Boards:

Lumber and car boards in elevator
Lumber and car boards in yard outside, are they 100 feet distant from building
Lightning:

Electric light or motor wires hanging on nails or other conducting substance
Slack wiring
Wires crossed
Cut-out and fuse boxes, are they asbestos lined, free from dust and self-closing
Are electric motors set on non-combustible substance, or on wood floors
Are floors beneath motors oil-soaked
Lanterns, number in use and oil used
Any open lights
Oil-Soaked Waste:

Oil-soaked waste on floors
Oil-soaked rags
Do you find seams in spouts, elevator heads, bin bottoms or other places calked with oil-soaked waste
Yard Around Elevator:

Condition
Straw, rubbish and kindling wood, swept away from empty cars
Screens:

Are all windows covered with $\frac{1}{4}$ -inch mesh wire screens
Are railroad cars left in elevator over night
Does watchman examine oil boxes and journals of same
Outside Protection:

If of metal, is it crumbling away in places so sparks can reach woodwork
Is woodwork exposed
Contents:

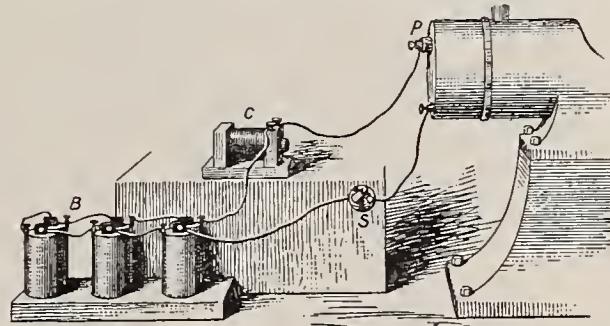
Grain in store at time of inspection
Grain Driers and Bleachers:

Have spouts and conveyors proper cut-offs
Automatic Journal Alarm:

Any thermostats removed from bearings
Remarks
.....

ELECTRIC IGNITION OF GAS ENGINES.

A magneto igniter is a small machine capable of generating, gathering or accumulating electricity in sufficient quantity to throw off a current with force and strength enough to make an electric spark hot enough to ignite a charge of an



explosive mixture. This machine is built with a revolving armature, commutator and brushes similar in design to an electric dynamo. The principal difference is that the magneto employs permanent magnets for its exciting fields instead of wound wire fields as in the dynamo. The armature revolves between the magnets.

A simple spark coil, such as used in connection with the touch, contact or wipe spark in the gas engine, consists of a bundle of soft iron wires cut exactly the same length. These are fitted into wooden heads in the shape of a bundle and covered usually with one layer of cardboard, around which is wound a number of layers of insulated wire. These layers of insulated wire consist of one continuous piece and are put on exactly as cotton thread is wound onto a spool. Each end of this insulated wire is fastened to a binding post, located usually on one of the wooden heads or on the wood base.

Contact, wipe or touch spark are terms which are usually understood to mean the same thing. Strictly speaking, this is not the case. Touch and contact sparks are made where two terminal points come squarely together within the gas engine cylinder and are squarely separated. One of these points is stationary, and the other movable, the movable one playing regularly up and down above the stationary, making a contact at each approaching movement and making a spark at the instant of separation. The wipe spark is usually made by one of the terminals revolving and wiping over the end of the other terminal at

each revolution. These terminals also operate within the combustion chamber of the cylinder. This makes the break in the circuit and the spark by wiping or slipping off, while the other does it by direct separation.

Spark plugs are of two kinds, known as jump spark plugs and contact spark plugs. Anything that is designed to carry the terminals into the combustion chamber of the cylinder and at the same time shuts up the hole into which it is placed comes under the head of spark plug. Terminals are points of platinum wire or steel to which the wires from the source of the electric current is attached. The source of the electric current is usually a small dynamo, magnet or battery. The contact spark plug which contains the two terminals has them so arranged that one is stationary and the other movable. The latter is operated from an outside mechanism which causes it or one end of it to approach and make a contact with one end of the stationary terminal. When these ends come together the circuit from the generator or battery is closed and the electric current is instantly started over the wire and terminals, until they are separated. When separated the current still tries to keep up its running, and when it finds the air gap at the point of separation tries to jump across it and a spark is the result. In the jump spark plug the terminals are stationary and stand about one-sixteenth of an inch apart. The current jumps across the space between them and makes the spark. The make and break mechanism is in the circuit somewhere outside of the cylinder.

The terminals always extend into the cylinder or combustion chamber, so that when a charge of gas is taken in and compressed these terminals stand right in the midst of the bulk of compressed gas, and just at this instant the mechanism breaks the circuit and the spark between the two points of the terminals occurs right in the gas mixture and sets it on fire. Some engines are fitted with a spark plug that carries only the stationary terminal, the movable being fitted into the piston which comes in contact with the stationary and starts the current at every inward movement of the piston, and breaks it when the piston starts on its outward movement.

The accompanying sketch illustrates the simplest method of wiring for contact spark. B, the battery; C, the sparking coil; P, the sparking plug, and S, the switch.—A. W. Longanecker in Blacksmith and Wheelwright.

CANADIAN GRAIN SHIPMENTS.

Canadian vessel owners estimate the following totals of the traffic in Canadian grain during the navigation season closed in December 12, when insurance expired:

Wheat, crop of 1905 30,235,000 bushels.
Oats, barley, etc. 828,000 bushels.
Old crop (1904) 6,000,000 bushels.

Total movement 31,063,000 bushels.

Besides these there went through American ports of Canadian grain as follows:

To Buffalo 10,600,000 bushels.
To Erie 600,000 bushels.

Total 11,200,000 bushels.

Grand total 42,263,000 bushels.

A heavy shortage of cottonseed meal was reported from New England in December. With a rapid advance in prices numerous defaults were made, and New England dealers and feeders alike suffered heavily.

An Iowa elevator manager, to test the amount of corn shrinkage, on November 9 sacked 80 pounds of good ear corn, freshly husked, and put it in the office, where there has been a good fire. On November 27 it weighed out 70 pounds, showing a shrinkage of $12\frac{1}{2}$ per cent.

CORN CULTURE.

The month of January has been marked so far by a series of noteworthy meetings, the object of which has been the instruction of the farmers in the science of corn culture more particularly. Not to mention the so-called seed specials that in December and the first half of January were sent through Indiana, Missouri, Nebraska, etc., there have been numerous corn schools and corn exhibitions that have been of great service in extending the corn propaganda.

Perhaps the most important of these schools was the "Short Course" at the Iowa Agricultural College at Ames, January 1-13, in connection with which was held the third annual contest of the Iowa Corn Growers' Association. For this contest an elaborate premium list was made up, the prizes being a number of trophies and other prizes in cash and merchandise worth not less than \$2,500. The faculty made arrangements for board and lodging so that the course need not have cost any student to exceed \$20 for all expenses including railroad fare. It was an exceptional opportunity, embraced by many.

In Indiana the Corn Growers' Association held a show on January 8-13 in connection with a similar school of instruction at Purdue University. This state was divided into five divisions for the distribution of prizes, the premium list covering white, yellow and mixed corn, four to five prizes for each, with sweepstakes and single ear classes. A large number of cash contributions were supplemented by prizes of farm implements, seed corn, etc. Among the cash contributors we note Clinton County Grain Dealers' Association, \$25; Crabbs-Reynolds-Taylor Company, Crawfordsville, \$30; Fowler Grain Company, Fowler, \$20; Wilbur Hawkins, grain dealer, Fowler, \$20; Lafayette Hominy Mills Company, \$10; McCray, Morrison & Co., grain dealers, Kentland, Ind., \$25; The Matt Schnable Grain Company, Lafayette, \$15; Rush County Grain Dealers' Association, \$12; Valentine & Valentine, grain dealers, Franklin, Ind., \$15.

The corn special which went through Indiana introduced a new man in agricultural educational work to the farmers of Indiana, in the person of Prof. G. I. Christie of the Purdue station. He is said to be a very competent man—earnest, businesslike, and with a personality that is pleasing. Right down in the bottom of his heart the average farmer has a sneaking idea that a station worker is a theorist, says an Indiana writer; but those who heard Professor Christie soon realized that he was both a student and a practical man.

The annual corn show of Nebraska will be held at Lincoln on January 16 to 19. A large list of prizes is published.

On December 15 a Juvenile Corn Congress was held at the state farm, Lincoln, and juvenile organizations of "corn growers" and "corn cookers" were formed. These are under the direction of the state and county school authorities.

The annual meeting and corn show of the Kansas Corn Breeders' Association will be held at Manhattan January 22-24, 1906, beginning with an evening session January 22. Among the speakers will be Prof. W. J. Spillman of the United States Department of Agriculture, on "Mendel's Law and Its Application to Practical Problems in Corn Breeding;" Supt. O. H. Elling of the Fort Hays Experiment Station on "Development of Corns for Eastern Kansas;" Dr. O. G. Hopkins of the University of Illinois, on "Practical Corn Breeding for Improvement in Yield and Value;" reports from the farmers who competed in the "yield per acre contest," in which they will tell how they grew their big yields of corn; C. P. Hartley of the Department of Agriculture on "Corn Breeding," with stereopticon illustrations. There will be several corn judging classes; and each member and visitor is requested to bring a ten-ear sample of corn, representing his ideal type, whether it is one of the so-called pure-bred varieties or a native corn, which may be entered without fee in the competitive exhibits. Prizes to the value of several hundred

dollars are offered in the various classes, and the prizes to be offered for the ensuing year will be announced at this meeting.

L. MOTT DECEASED.

The grain trade of Des Moines and of Iowa suffered a distinct loss in the death of Lamoine Mott, from pneumonia, at the home of his sister, Mrs. Mary M. Day, at San Diego, Cal., on December 24.

Mr. Mott was a native of Ohio, having been born at Woodsfield, on May 28, 1841. He spent his youth in that state, and in the early spring of 1864, after his marriage to Gertrude Anshutz at Moundsville, W. Va., he came west, settling on a farm then about four miles northwest of Des Moines, on Beaver Road, now Beaver Avenue. He farmed but one year, however, and then removed to town and entered the grain and commission business, which ever after was his occupation. He erected the first buildings in Des Moines used exclusively in the grain business, where for a good many years grain was assembled and sacked for shipment down the



THE LATE LAMOINE MOTT.

Des Moines River on barges. As the state filled up with farmers and railroads came, his business increased until he became one of the largest and best known as well as one of the most popular dealers in Iowa. All the older commission houses in Chicago and the West remember him with pleasure as one of the reliable men of the trade in Iowa, and the Pope & Eckhardt Company especially prized him as a continuous shipper to them for over thirty years. At the time of his death he was president of the Diamond Elevator Company, operating a line of houses in Iowa and South Dakota, and vice-president of the Lockwood Grain Company, one of the most substantial companies of Iowa and the Middle West. Mr. Mott was also president of the Shannon & Mott Milling Company, a business that, starting with a mill that had long been a sort of a Jonah, in a few short years has grown with great rapidity. He owned also lands in South Dakota, an orange grove near San Diego, Cal., and a large number of houses in Des Moines and in the railway suburb of Des Moines known as Valley Junction. He was building the Orpheum Theater in West Eighth Street, now nearing completion.

Mr. Mott is survived by his wife and four children—Mrs. Day of San Diego, Frank W. Mott of Glenn Ullin, N. D., and John A. and Clarence L. Mott of Des Moines. Messrs. B. F. and Lee Lockwood, of the Lockwood Grain Co., are his nephews.

The body of Mr. Mott was brought from California to his old home, from which the funeral took place on the afternoon of January 3, but owing to the severity of a storm that burst over the city that day, the remains were temporarily placed in a

vault and were subsequently interred with the fraternity ceremonial ritual by Capitol City Lodge, A. F. & A. M., of which he had long been a conspicuous working member.

ATTACK ON SOUTH CAROLINA QUARANTINE.

The Texas Grain Dealers' Association has begun an effort to induce South Carolina to relax or abandon her quarantine on Texas grain. The same restrictions prevailed last year in Louisiana and also at the state lines of Georgia, but a committee composed of L. G. Bellew of Pilot Point, C. F. Gribble of Sherman and H. B. Dorsey spent some time in Georgia and convinced the grain dealers there that the admission of Texas grain would not bring the boll weevil into the state, and they asked the legislature to raise the quarantine, which was done about the first of June. Louisiana had previously abandoned the quarantine as unnecessary. Now the Texas people will pursue the same general plan in South Carolina by sending literature into that state to convince the planters that the restrictions are without justification in the premises, and later may send a committee to South Carolina.

INDIANA GRAIN DEALERS' ANNUAL.

The annual meeting of the Indiana Grain Dealers' Association will be held at the Denison Hotel, Indianapolis, on January 17 and 18. The program below outlines an especially interesting meeting—one that brings all Indiana dealers to the capital:

WEDNESDAY, JANUARY 17, 10:00 A. M.

Address of Welcome—Geo. C. Wood, President, Windfall.

Secretary's Report—J. M. Bradford, Secretary.

Treasurer's Report—Bert A. Boyd, Treasurer.

Appointment of Committees—Geo. C. Wood, President.

Address—"Be Friendly with Your Competitor"—H. L. Bushnell, Hoopeston, Ill.

Discussion led by T. A. Morrison, Kokomo, Ind.

AFTERNOON SESSION.

Paper—"Why Millers and Grain Dealers Should Be Friendly"—C. J. Pickering, Middletown, Ind. Discussion led by J. C. Hite, President Indiana Millers' Association, Peru, Ind.

Paper—"Why It Pays to Arbitrate Rather than Litigate"—C. E. Nichols, Lowell, Ind. Discussion led by D. Anderson, Noblesville, Ind.

Paper—"How Can We Assist in Securing Better Weights and Grades in Terminal Markets"—A. F. Files, Muncie, Ind. Discussion led by John W. McCardle, Indianapolis, followed by E. H. Culver, chief inspector, Toledo, and J. D. Shanahan, chief inspector, Buffalo.

NIGHT SESSION 8:00 P. M.

Address—"The Transportation Question from a Shipper's Point of View"—H. E. Kinney, Indianapolis.

Address—"The Transportation Question from the Standpoint of the Railroads"—Judge S. O. Pickens, General Counsel Pennsylvania Railroad.

Address—"The Transportation Question from a Public Official's View"—Union B. Hunt, Chairman Indiana Railroad Commission.

THURSDAY, JANUARY 18, 9:30 A. M.

Report of Committees.

Paper—"Elevator Insurance and Self-Inspection"—C. A. McCotter, Secretary G. D. N. M. F. I. Co.

Paper—"Why We Organize"—James W. Sale, Bluffton, Ind. Discussion led by C. A. Burks, Decatur, Ill.

Paper—"Who Is a Scoop-shoveler? Who Is a Regular Dealer?"—E. M. Wasmuth, Vice-President I. G. D. A. Discussion led by Charles S. Clark, Chicago, Ill.

Address—"Why We Should Maintain a National Association"—A. E. Reynolds, Crawfordsville. Discussion led by H. L. Goemann, Toledo, Ohio.

AFTERNOON SESSION.

Address—"How Can We Assist the Farmer in

Raising a Corn in Indiana That Will Maturity"—Prof. G. I. Christie, Purdue University. Discussion led by E. A. Grubbs, Greenville, Ohio.

Miscellaneous Discussions.

Adjournment.

Reduced Rates at Dennison Hotel.

NEW MAPLE LEAF ELEVATOR.

While Kansas City is steadily enlarging her grain storage capacity, the new Maple Leaf Elevator, built and owned by the Chicago Great Western Ry., is not an addition to the elevators of this market, but rather a restoration, since it but occupies the site and does the work of a wooden elevator which was destroyed by fire in 1904. Like most similar fires, the destruction of the old and much larger elevator made place for a new house that embodies the latest ideas of terminal elevator construction—a fireproof working house, incasing the machinery

steel-frame Monitor Separators and a No. 10 Invincible Oat Clipper on the first floor. There are two hopper scales of 100,000 pounds' capacity in the cupola, above which are garners of the same capacity. A belt-driven passenger elevator connects the first and the scale floors, and the power transmission is generally by rope, a few of the smaller machines taking power by belt.

As there is but one opening between the elevator and the receiving shed, and as this can be securely closed, the burning of cars on the tracks outside the building can do no damage, the brick division wall being ample fire protection. As the interior of the house is fitted with steel leg casings, spouts and steel frame cleaning machinery, there is very little chance for any injury occurring from fire. The windows and doors also are of the latest galvanized iron frames with sash glazed with wire glass, while the doors are of the best steel panel fireproof pattern. The old power plant which was uninjured

make good a rate quoted at less than tariff in error by an agent, claimant having sold on basis of the quoted rate.

(6) Loss because of neglect on part of railroad company to change billing and delivery, local agent having issued such corrected bill of lading to shipper.

The committee, acting under legal advice, hold that railroad companies are liable to shippers for damages in each case involving the questions mentioned, and such claims as are properly substantiated by evidence have been presented to the claim departments of the different railroads and settlement requested.

It is not the purpose of this committee to act as a general agency for the collection of all claims against transportation companies, but rather to consider those claims that have already been presented to railroad claim departments and payment refused.

We believe that it is the general policy of railroad companies to pay all just claims, but that the employes of the railroad claim departments are inclined to use technical reasons as excuses for refusal to pay claims rather than to give fair consideration of the justice and legality involved.

Claimants are often careless in making up their papers to substantiate their claims, and the necessary evidence is often lacking, or the statement of damages is exaggerated and not strictly in accordance with facts. Such claims are not likely to be favorably considered by the claim departments, and they simply dispose of them by refusal to pay without suggesting changes or modifications to make them valid.

RATES REDUCED IN KANSAS.

The Kansas Board of Railroad and Warehouse Commissioners has ordered a 5 per cent reduction in freight rates on railroads in that state. The attorney prosecuting the claim for a reduction asked a 33 1/3 per cent reduction and one of the commissioners voted for 15 per cent. The roads may or may not comply with the order.

Preceding the issuance of the order, the Board heard testimony for and against the complaint of excessive rates. In the course of the hearing some interesting testimony was taken. The millers of the state pretty generally opposed any reduction, and thirty-eight of the leading firms appeared as intervenors, and said:

As an evidence of the fact that said rates are reasonable, we direct the Board's attention to the fact that under the existing rates large milling industries and other industries incident to the grain business have been created and builded in the state of Kansas; that under existing conditions, the growth of such industries has gone on until it approximates to-day twenty-five million dollars; but with regard to the existing freight rates upon grain in the state of Kansas, these intervenors do say that there is great intimacy between the rates upon raw grain and upon the manufactured product; that the mill owners and grain shippers have been accorded by the railroad companies what is known as the privilege of milling in transit; that without this privilege it would be impossible for the milling industry in this state to exist, and these intervenors have been informed, and believe, and so allege the fact to be, that a substantial reduction of the general grain freight rates in the state would occasion a withdrawal of the privilege aforesaid, and hence a destruction of their business.

A number of millers orally testified to the above effect.

J. C. Robb of Wichita was the best witness for the carriers. He insisted that that city has the advantage of Kansas City on the rates on grain for export via Galveston. He also said, what is no doubt true, that any reduction made in rates on grain would benefit the farmer, and only the farmer—not the dealers or millers. He also defended the objectionable "elevator allowance" of 1 1/4 cents per hundredweight at Kansas City. It seemed "a low charge for the same," he said, adding as entirely new and original doctrine: If the Kansas City elevator man had to pay it, he would simply have to buy his grain from the producer or interior dealer on a larger margin, which would mean that the farmer would get less for his grain."

J. G. Maxwell of McPherson, a broker, took a different view. He saw in the "allowance" only a rebate from the rate to the elevators, and he said he could not compete with the buyers representing the railroad elevators. "Don't you have the same unloading privileges that anybody does?" asked M. A. Low. "No, I don't." "Can you name a single



NEW MAPLE LEAF ELEVATOR AT KANSAS CITY, MO.

of the plant, and a series of fireproof tanks, or bins, with conveyor belts above and below for the in and out movement of grain.

The working house in question is 44x54 feet on the ground, resting on a concrete foundation and constructed of steel columns, steel bin walls and steel cupola frame, all protected by fireproof tile. The tanks, or bins, fourteen in number, are arranged in two rows and are built of fireproof hollow tile. They are 21 feet in diameter and 85 feet high.

In the receiving shed shown in the engraving are five tracks, each with a receiving pit, and three pairs of unloading shovels so arranged that cars can be unloaded from any track as desired. Each track hopper is independent of all the others. The grain is lofted by a receiving leg with 10,000 bushels' capacity per hour.

For loading there is one shipping leg of 10,000 bushels' capacity per hour, and cars may be loaded on either of the first two tracks or on both simultaneously. Cars are moved in either direction by a three-drum car puller located in the basement of the working house.

The house has also two cleaning legs of 5,000 bushels' capacity each, taking grain from four large

when the former building was burned supplies the power for the present fireproof outfit.

The Barnett & Record Company of Minneapolis designed and erected the plant.

POINTS FOR SHIPPERS.

The claim department of the Iowa Grain Dealers' Association, consisting of Secretary Wells and the railroad claims committee, has organized, as directed by resolution, with Mr. Wells as chairman. As the result of the first meeting of the committee, Mr. Wells, as secretary of the Association, has issued a bulletin from which the following is an extract and which in principle and suggestion is of universal application:

The committee considered the different claims, as filed by the members, and the general questions involved in the claims thus filed are as follows, to wit:

- (1) Shortage in weight because of evident leakage in transit.
- (2) Shortage in weight because of evident stealeage in transit.
- (3) Loss on account of unreasonable delay in transit because of decline in market.
- (4) Loss on account of unreasonable delay in transit because of deterioration in grade.
- (5) Loss because railroad company refuses to

instance in which a shipper has not been accorded this privilege?" Mr. Maxwell stated that he couldn't. "But," he said, "I can tell that the discrimination exists, and so could you if you were shipping grain." "Well, how do you know?" persisted Mr. Low, representing the Rock Island System. "Just the same way that I know the wind is blowing; I see the trees bend and the grass wave," replied Maxwell.

M. A. Low, attorney for the Rock Island, explained the position of the railroad companies and indicated the grounds of their defense. He said in part: "It is a fundamental principle that a carrier which collects products and brings them to a central point for shipment, or a carrier which distributes goods from some central point for consumption, is entitled to a higher rate than a carrier which handles goods in trainload shipments. That is the condition here in Kansas. The Kansas railroads are collecting the grain, and hauling it to Kansas City, where it moves to the markets."

METHODS OF CROP REPORTING.

The statistical work of the United States Department of Agriculture was begun in 1862. It now consists of three classes of reports, to wit: (1) The census bureau's decennial count of acreages and yields; (2) the monthly and annual reports of acreages, condition, yields, etc., and (3) the monthly reports made by the Weather Bureau.

In making up the reports under class (2), known popularly as "the crop report," the department now continues the old system of a special field service of traveling agents, paid state statistical agents in 43 states, county correspondents in 2,700 counties of agricultural importance, and township and voting precinct reporters, and at the end of the season solicits special reports from individual farmers. But since the Holmes-Hyde delinquencies, the method of handling and assembling all these reports has been radically changed, the method of procedure now in vogue being described in the Crop Reporter for December, 1905 [Supplement], as follows:

Just previous to the issuing of the monthly reports, the several different corps of correspondents send their reports separately and distinctly to the department at Washington.

The reports of special field agents and state statistical agents residing at points more than 500 miles distant from Washington are sent by telegraph, in cipher, to the Secretary of Agriculture, by whom they are placed in a safe located in his private office, to which there is no access until the day on which the report is issued.

In order to prevent any possible access to reports which relate to speculative crops, and to render it absolutely impossible for premature information to be derived from them, all of the reports from the state statistical agents, as well as those of the special field agents relating thereto, are sent to the Secretary of Agriculture in specially prepared envelopes addressed in red ink, with the letter "A" plainly marked on the ends. By an arrangement with the postal authorities, these envelopes are delivered to the Secretary of Agriculture in sealed mail pouches. These pouches are opened only by the Secretary or Assistant Secretary, and the reports, with seals unbroken, immediately placed in the safe in the Secretary's office, where they remain sealed until the morning of the day on which the reports are issued, when they are delivered to the statistician by the secretary or the Assistant Secretary. The combination for opening the safe in which such documents are kept is known only to the Secretary and the Assistant Secretary of Agriculture.

Reports from the state statistical agents and special field agents in relation to nonspeculative crops are sent in similar red addressed envelopes, marked "B," which go to the Bureau of Statistics and are kept secured in a safe until the data contained in them are used by the statistician in computing estimates regarding the crops to which they relate. The reports from the county correspondents, township correspondents and other voluntary agents are sent to the Chief of the Bureau of Statistics by mail in sealed envelopes. The figures reported are transferred from the schedules to large tabulating sheets, where they are given proper arithmetical weight according to the acreage or production of the county or agricultural unit they represent. State averages are then determined and the computations verified. All these reports

are tabulated in separate sections working in separate rooms, and, to guard against any individual drawing deductions from the results shown for any state or states tabulated by him, the chief of the division numbers the tabulation sheets at the top where the name of the state to which they relate appears and cuts off and omits groups of counties marked with the number, so that there is nothing to show the state to which any figures pertain. After having been worked up by different clerks in other rooms from those in which they are tabulated and partially added, they are delivered by the chief of the division to the statistician, who assembles the sheets for final computation.

For the purpose of checking up the results of the several sources of information and reducing the possibility of error to a minimum, the final results are made up by a Crop-Reporting Board, composed of the Chief Statistician, or chief of the Bureau of Statistics, as chairman, and four individual members, made up of statisticians and officials in the bureau and members of the special field service called to Washington on report days for that purpose. Thus the plan is to select this board of four members each report day from an available corps of six or eight men well trained and thoroughly informed as to crop conditions and as to the relative value and correctness of the reports from the different corps of correspondents. This board, with several expert computers, meets on report days in the office of the Statistician, which is kept locked and no one allowed to enter or leave it. All telephones are disconnected.

After the assembling of the board, all reports by states from the several distinct corps of correspondents are brought together in convenient form in parallel columns on final tabulation slips, and the board is thus provided with several separate estimates covering the same territory and the same crops, made by the respective corps of correspondents, each reporting for a territory with which he is thoroughly familiar. There are also prepared for the board abstracts of the reports of each crop by states from the weekly weather crop bulletins of the Weather Bureau issued during the month. With all these data before them, each individual member of the board computes separately his own estimate of each crop by states. These reports are then compared and discussed by the board under the supervision of the chairman, and the final figures by states are decided upon. It is interesting to remark how often the reports of the different corps of correspondents very nearly approach or equal each other, and how often the final figures arrived at by the individual members of the board agree with each other. These state estimates, which are in percentages, are then multiplied into the acreages for their respective states. The sum of these products is divided by the sum of the acreages, giving the percentage for the entire crop for the United States.

Reports relating to the principal farm crops and live stock are prepared and made public on the 10th day of each month. In order that the information contained in these reports may be made available simultaneously throughout the entire United States, and that one part of the country may not have the advantage over another, they are simultaneously handed, at a given hour, as at 12 o'clock noon or at 4 o'clock p. m. on report days, to all applicants and to the Western Union Telegraph Company and the Postal Telegraph-Cable Company for transmission to the exchanges and to the press. These companies have reserved their lines at the designated time, and by use of a "flash" forward immediately the figures of most interest. A mimeograph statement also containing such estimates of condition or actual production, together with the corresponding estimates of former years, for comparative purposes, is prepared and sent to a mailing list of exchanges, newspaper publications and individuals. The same afternoon, printed cards containing the essential facts concerning the most important crops of the report are mailed to the 77,000 postoffices throughout the United States for public display, thus placing the most available information within the farmers' immediate reach.

A very great improvement has been made in the special field service, says the Crop Reporter, by districting the United States and assigning each of the respective field agents to a definite group of states, which they thoroughly travel over and report on each month.

In this connection, and in criticism of the department's method, the Michigan crop statistician writes C. A. King & Co., Toledo, among other things, as follows:

It is not surprising that the government goes wrong in certain phases of its report when the office from which it is issued is so remote from most of the states which produce the greater portion of the agricultural products grown in this country. While it is true that the department has able rep-

resentatives in this state, yet I question their ability to keep closely in touch with conditions as they really exist. The trouble is not with the ability of these representatives, but rather with the system under which they are obliged to work. The reports from the correspondents throughout the state form the basis of the report sent to Washington by the state statistical agent. Comparison is made, as I understand it, between this state report and the report of the traveling representative of the department. The point I wish to make is that neither of these two individuals has the largest possible amount of data at hand from which to make their percentages. If the state agent could visit different counties, study the trend of affairs, and thus keep posted on the doings of each community, he would be amply qualified to make reports that would be as valuable as it is possible to make them. The man from outside the state is handicapped because he is not fully acquainted with Michigan industries, their location, extent, etc. Each man works at a disadvantage, and yet if either one of them had the powers of the other conferred upon him, in addition to his own, the result would be very different.

AMERICAN RICE EXPORTS.

The rapid growth of rice production on the Gulf littoral of Louisiana and Texas has often been commented on—in more or less exaggerated terms, some have thought. Recent compilations of statistics of rice imports and exports by the Agricultural Bureau quite fully sustain most of the assertions of the planters as to the revolution in the rice trade caused by the discovery, exploited by the Agricultural Department, that the Gulf Coast is a natural rice field.

For example, it appears that in the past ten years rice imports by the United States have declined in value from \$4,000,000 (1899) to \$2,000,000 in 1905 (fiscal year), and that in 1905, for the first time in our commercial history, the exports of rice exceed the imports.

The value of the exports of rice for fiscal year 1904-05 was \$5,361,641, against \$667,387 in 1900 and \$16,454 in 1895.

Now, as the Crop Reporter, published by the Agricultural Department, says, "this remarkable change in the movements into and out of the United States is due in part to the large increase in production which has recently developed in Louisiana and Texas and in part to the new relations of the United States with certain rice-consuming communities, especially those of Porto Rico, Hawaii and Cuba, the two former through annexation and the latter through the reciprocity treaty. Formerly rice was grown only in the coast counties of the Carolinas and Georgia and the Mississippi delta, but a few years ago it was discovered through experiments made by the Department of Agriculture that certain prairie lands in southern Louisiana and Texas, which had been formerly considered fit only for grazing, were peculiarly adapted to rice culture."

"As a consequence the production of rice in the United States has grown from less than 100 million pounds in 1880 and 137 millions in 1890 to nearly 1,000 million pounds in 1904; and the United States now takes rank among the rice-producing countries of the world. To be sure, it is not to be expected that the United States will ever compare with the great rice-producing countries of the Orient, where this article is the chief food supply, labor plentiful and climate especially suited to its production, yet in point of quantity available for distribution to the world's markets the United States even now holds quite an important rank. At present the United States apparently ranks fourth in the list of rice-producing countries of the world, the figures of exports in the latest available years being: India, 5,533 million pounds; Siam, 1,893 million pounds; French Indo-China, 1,514 million pounds; the United States, 204,854,679 pounds, including shipments to its non-contiguous territory; Japan, 103 million pounds; Dutch East Indies, 85 million pounds; Italy, 82 million pounds; Korea, 42 million pounds, and Spain, 30 million pounds.

"The list of rice-importing countries of the world

is much larger than that of rice-exporting countries. Japan, which is usually looked upon as so great a rice producer as to give a large surplus for exportation, in fact imports much more than she exports; and to such an extent is this true that she was in 1904 the largest rice-importing country in the world, her total imports of rice in that year being 1,964 million pounds, against 1,022 million pounds imported by the Straits Settlements (largely for re-exportation), 646 millions by the United Kingdom, 602 millions by Germany, 586 millions by the Philippine Islands, 523 millions by the Netherlands and 466 millions by France. The rice exports of the principal exporting countries of the world amount in the latest available years to about 10,000 million pounds, valued at over 100 million dollars, of which more than one-half was from India and over one-fourth from Siam and French Indo-China."

[For the "American Elevator and Grain Trade."]

NOTES ON THE BALKAN GRAIN TRADE.

BY FELIX J. KOCH, A. B.

A feature of the annual Agricultural Exposition at Bucharest, Roumania, are great reapers and other agricultural machinery which the government is anxious to bring into use among the

work, and the roof likewise of withes, intended for ears of corn only, and so constructed that these may dry readily. The floor of this building is invariably covered over with the refuse of the husking. In the rear of the long, narrow yard there will be a few cornstalks, ready for use, while others of these are employed as cover to the hay and grain stacks. Porches of the homes are completely covered with the ripened corn.

On the market of Sofia, the capital of Bulgaria, huge gourds are a feature. Square or round holes will be cut into the side of these vegetables, which are used as vessels for grain, either for sale or for use in small quantities. Corn occupies much of the neighboring country even so far as Tirnovo, and as early as the last of September the sower of grain is at work in the fields. Strips of velvety meadows, with sheep and grain alternating constantly, make the region a magnificent one to travel through. Bulgarian money contains a picture of a man plowing in the fields as an indication of the true national industry. In the vicinity of Plevna, where the great battle was fought, oxen are employed almost exclusively at the plowing.

Houses in the interior of Bulgaria are constructed with walls extending in to enclose a bit of yard, which will be tramped hard and then covered over with the yellow ears of corn. Amid

Owing to the shallow planting at times of the rainy season in North Turkey, the grain fields are flooded by long rivulets, from which each stalk then rises, at the top of a miniature pyramid of earth, so that the whole resembles most a western prairie covered with mole hills. Great water mills, the wheels, however, of coarse hewn wood, are everywhere in evidence. At Salonica, where there is an even larger grain exportation via the Aegean, steam mills are in operation. There too huge modern warehouses, such as would do credit to an American city, have been erected along the harbor front, and picturesque Spanish Jews, in national costume, bear the sacks of flour back and forth upon their backs, as do the porters in the grain elevators of western Europe and some river ports of America.

Northward in Monistir, the cutting of the reeds almost out-rivals the regular grain industry, which latter is largely given over to the raising of broom corn. As a result, for miles and miles of Monistir Province, the scene is identical with that of the South American pampas. In this section fences are practically unknown, and where one kind of grain ends the other begins. In the stores of Monistir, the tiny yellow seeds of the sesame, which is employed largely for sprinkling bread-rolls, as well as oats, wheat and barley, are sold in open bags, set side by side in the bazaar.



THE GRAIN MARKET IN SOFIA, BULGARIA.



GRAIN DEALERS AT SALONICA, MACEDONIA.



HAULING GRAIN INTO USCUP, RUMILI, TURKEY.

peasants. A large per cent of these affairs are of American manufacture. A cereal building is almost the main attraction at the Fair. Corn and wheat tastily arranged in sheaves or jars and interspersed with photos of model grain lands, as well as complete models of farms made from grain, are the wonders of the Exposition to the people. Inasmuch as many of the peasants live largely on maize-bread, model water mills are another characteristic feature of these expositions.

At Giurgevo, and in the miserable interior villages of Roumania, where the tremendous hay stacks and innumerable grain cribs are found, corn-cobs pass current as fuel, often entirely supplanting fagots, and coal, also, for obvious reasons. Even bread is here rather uncommon, and maize meal, boiled in crude iron kettles, and eaten under the name of "manalego," when half soft, is the principal article of food. Men go out at sunrise to attend the grain, and at noon the women bring them this porridge for dinner.

In the villages of West Roumania, grain is evident on every hand, since its raising is the one occupation of the people. Aside from a few plants, thriving in an old wash-tub, the garden is planned pretty much as follows: There will be a maize magazine at one corner, with baskets suspended from the corners of the eaves for the hens to nest in. Then there will be a large wickerwork structure, filled in with plaster, and the roof of planks, which likewise is filled with grain, excepting perhaps for a wooden wheel with which the cotton (here counted among the grains) is worked. Then there is a shanty, in which wool and cotton are worked up in the winter, and there, too, grain is stored in broad sacks. Beyond will be a little shed of wicker-

these, as opportunity offers, the women squat to husk, while the babies crawl about among the ears. In the vicinity of Radomir, Bulgaria—as in Roumania—all the grain of a village is gathered in one huge stack on the outskirts, in order to prevent incendiarism—since then all suffer in proportion and are equally vigilant in watching against fires. In the same section, thrashing goes on on the Sabbath as on any other day, the horses being harnessed six abreast and driven 'round and 'round a hard tramped area in the fields. At Rila Monastery, where it is supposed Miss Stone was hidden, the monks own thousands of acres of grain land, and in October the prior goes off on a regular journey to superintend distant harvestings, as abbots did in better-known Europe in centuries long passed.

Grain is hauled in this section in wagons of a flat bed surrounded by short palings, and these in turn are topped by one stringer, almost exclusively. Wheat in this region is the most expensive grain, bringing eight to ten centimes, or about two cents, the kilogram (2.2 lbs.). Grain, moreover, is heavily taxed, being the principal source of income of the government. The water mill is here to be found on the outskirts of every village situated near streams of sufficient power.

Uscub, in the north of the Turkish province of Macedonia, is a famous grain market, and in the cornfields, when the stalks are stacked, great yellow pumpkins are seen, as they are with us at home. Straw is quite frequently stacked in the tops of living trees, as a means of saving it from the cattle, which are turned loose into the aftermath. The collecting and stacking of swamp-reeds, which are employed in multitudinous ways, is a distinct feature of the grain-raisers' profession.

At Seres, in the far east of European Turkey, pretzel sellers at the railway station use for aprons the American flour sack. Between this place and Drama, rice is grown in goodly amounts.

At Adrianople, in the great mosques, concentric circles of iron bars are set—primarily for the little oil-cup lamps, but also as places from which to suspend offerings, such as little baskets and the like, tastily made of grain by the votives themselves and given in hope of obtaining good crops.

HARROUN ELEVATOR AT ST. JOE.

The Harroun Elevator, so called, at Elwood, near St. Joseph, Mo., has been leased by W. H. Ferguson and William Nash, of the Nash-Wright Company of Chicago, who is interested with Mr. Ferguson in the operation of the Southern Elevator at Kansas City, where Mr. Frank Delany, formerly with the Nash-Wright Company, is general manager.

The Elwood Elevator has not been in operation for some time, but is a new and well-equipped house that, when recently rebuilt, cost \$100,000, aside from machinery costing about \$30,000 just put in. It will be opened under the new management about February 1.

Jewell is the banner corn county of Kansas for 1905, with a record of 6,241,952 bushels; Marshall was second, with 6,173,898 bushels, and Nemaha third, with 5,853,854 bushels. Barton County holds the 1905 Kansas record for wheat production, with 4,099,335 bushels; Reno County second, with 2,910,670 bushels, and Sumner County, once the leader, dropped to third place, with 2,343,654 bushels, closely followed by Pawnee County, with 2,302,924 bushels.

SAVED! SAVED!*

The corn was killed in early May.
The floods had washed it quite away.
And later on it died again
And rotted 'neath the constant rain.
Once more we tolled its final knell:
The seed had not been tested well.
Yet, later it began to sprout:
Then died—the weeds had run it out.
And later yet, still thin and pale.
It perished in a storm of hail.
Then came a fierce and burning heat:
It died that week of "fired" feet.
And then the awful smut arrived.
And not a single stalk survived.
And soon we watched it in dismay
Dry up and shrivel quite away.
Then came the last and saddest death:
It wilted 'neath the frost king's breath.
Nine times it died; and yet that fall
We built new cribs to hold it all.
Now tell me, is there any eat.
With lives enough to equal that?—Ex.

*Although the corn crop of 1905 was a "bumper," the nation, says a secular contemporary, has seldom had a corn crop that was ruined more often during the growing season. This surprising phenomena did not escape the notice of a Western singer who tells the remarkable story in "flowing numbers."

COMMUNICATED

[We invite correspondence from everyone in any way interested in the grain trade on all topics connected therewith. We wish to see a general exchange of opinion on all subjects which pertain to the interest of the trade at large, or any branch of it.]

NEW ELEVATOR AND FEED MILL.

Editor American Elevator and Grain Trade:—Atwood Bros. & White Co. are building an exchange station at Evansville, Minn., which will include also a grain elevator and feed mill. The elevator is to have a capacity of 10,000 bushels and will be equipped with a 21-horsepower Fairbanks-Morse Self-producing Gas Engine for grinding feed and handling the cleaner and other machinery.

Yours truly, CARL A. BRANDON.
Starbuck, Pope County, Minn.

IMPROVE THE CROP REPORT OR CUT IT OUT.

Editor American Elevator and Grain Trade:—We think it would be well for the Agricultural Department to continue to issue a crop report, providing it will formulate a system of getting its information from absolutely reliable sources, so that the report will not be misleading. Unless this is done, in our judgment it will be better to cut it out altogether.

Yours truly, J. G. MAXWELL & CO.
McPherson, Kan.

HOW TO IMPROVE THE CROP REPORT.

Editor American Elevator and Grain Trade:—I hardly think it would be wise for the government to abolish the agricultural report. That the present Secretary is clothing this report with more secrecy than his predecessors there is no doubt, and for that reason we believe that the general public is being more benefited than it has in past years. There are some large concerns who have it in their power to get reports very much to their advantage that the general public cannot have the benefit of; but if the government will faithfully get these reports out and distribute them simultaneously to the general public, in no way allowing favors to a few, we think it for the best interest of the country.

However, we do not believe that the estimated reports given during the early part of the season are of very much advantage, and are somewhat of the opinion that the report should be issued quarterly instead of monthly.

We think, too, that the government reports could be very much improved upon by introducing a

postal card system, requiring each farmer to report to the government through the various state departments, over his own signature. In this way the acreage could be ascertained each year and the final figures would show the year's abandoned acreage, which, in my estimation, is one of the weak features of our present government system.

Very respectfully yours,

B. A. LOCKWOOD,
Pres. B. A. Lockwood Grain Co.
Des Moines, Iowa.

CHANGE OF BUSINESS AT DECATUR.

Editor American Elevator and Grain Trade:—We beg to announce that we have purchased the brokerage business of Postlewait & Co., taking possession on Tuesday, January 2.

The business will be under the management of W. E. Walker, who has had years of experience in the grain business with his father, the late Elijah Walker, in operating elevators at Macon, Walker, Moweaqua, Dunkel Station, and for the past ten years at Assumption, Ill., up to the time of Elijah Walker's decease on July 23, 1905. It is our determination to represent only those firms who are good bidders, fair in their weights and prompt in settlement. We will be found in the market at all times, and will retain the services of Geo. W. Walker, who was with H. I. Baldwin & Co. for two years and with Postlewait & Co. for the past year.

Yours truly, W. E. WALKER & CO.
Decatur, Ill., January 1, 1906.

CROP REPORT GOOD IF IMPROVED.

Editor American Elevator and Grain Trade:—With reference to abolishing the monthly crop report of the Agricultural Department, we cannot say that we are in favor of doing away entirely with these reports, but we certainly do feel that there should be some change in the collection of the data of which they are made up. We noticed a suggestion recently made by the Michigan State Statistician that the United States government and the state authorities work in harmony, thus doing away with the two sets of reports, and the saving that would be made by abolishing one department could be utilized in increasing the efficiency and desirability of the one that was kept up. It is well understood that there is great need of more efficient service in tabulating and gathering these reports.

We are pleased to note that you are giving the matter some attention, and trust that it will have the effect of bringing about some immediate reforms.

Very truly yours, J. A. HEATH.
Lenox, Mich.

"ETERNAL VIGILANCE."

Editor American Elevator and Grain Trade:—The following letter has been addressed to the members of the National Hay Association:

In view of the persistent, and in some respects peculiar, methods of the railroad interests in their efforts to thwart the purpose of President Roosevelt to secure from Congress legislation that shall give the Interstate Commerce Commission effective authority in restraint of excessive and exorbitant charges for transportation, it behoves all who have taken up the fight for a "square deal" to keep at their posts and "stand by their guns" while the fight is in progress. The crucial period of the contest between corporate aggression and the suffering public is now upon us. The railroad interests have rallied all their resources, legitimate and otherwise, in support of a final assault upon Congress to prevent any legislation in line with President Roosevelt's recommendation for government regulation of railroad rates. One of the most insidious methods of the railroad companies, which is being actively employed, is an effort to secure signatures of shippers to a remonstrance against legislative action, on the ground that present laws will bring to the public the relief for which it clamors if such laws are properly enforced.

It is hardly necessary to refer to the "influences" that are being invoked to secure signatures to such a document. We know that in some instances they are of a character hard to withstand, and doubtless many names will be secured among the mass of those who are heartily in sympathy with Presi-

dent Roosevelt's policy. This scheme will, however, prove abortive if those who have the courage of their convictions keep on the alert and continue to use their best efforts for railroad rate reform.

We therefore call upon the members of the National Hay Association, which as an organization has gone on record in an endorsement of the President on this question, to rally en masse to his support and bring their influence to bear upon Congress in this behalf. See the member of Congress from your district while at home during the holiday vacation, or if you cannot see him, write him that his constituents hope to see that he maintain a stand in valorous defense of President Roosevelt in the great fight he is leading for railroad rate reform.

Yours respectfully, GEO. S. LOFTUS,
Chairman Transportation Committee.
St. Paul, Minn., December 22.

KILN-DRYED CORN A SAFE COMMODITY.

Editor American Elevator and Grain Trade:—We do not care to offer any opinion upon the merits of the change in the Chicago grading rules proposed by Chief Inspector Cowen excepting those relating to kiln-dried corn. Our information is that of corn that has had everything in its favor in maturing, if moved to market during the winter and early spring months, not much over 1 per cent will come within the 15½ per cent moisture rule as established by the Board of Trade so as to permit it to grade No. 2 corn. If kiln-dried corn is to be refused the contract grade, it will mean that Chicago will be without any contract corn stocks for at least four to six months in the year. It is a well-known fact that kiln-dried corn always commands a premium over the natural corn. This premium comes because of its keeping quality; and it must necessarily follow that its essential properties are not lessened or injured when properly dried.

We think that to limit kiln-dried corn to No. 3 or lower grades would work untold injury to our trade by depriving the trade of a fair protection in their hedges against their holdings of natural corn.

Very truly yours, J. C. SHAFFER & CO.
Chicago.

FAVORABLE CONDITIONS AT NEW ORLEANS.

Editor American Elevator and Grain Trade:—Knowing that Illinois Central shippers would be interested in hearing of conditions as they now exist in the New Orleans market, I am pleased to give a brief statement of what I saw of the Illinois Central Railroad facilities and the inspection of grain in that market.

I spent all of a week very recently in New Orleans, and made it my business each morning to visit the elevators and personally to follow the inspectors as they sampled and inspected the grain arriving, and I must say, as a result of this personal observation on my part, that nothing could be more fair than the treatment accorded grain shippers than that of the New Orleans Inspection Department, which is headed by W. L. Richeson, chief inspector, with George R. Colby and John R. Anderson as deputy inspectors at the Illinois Central houses. Each and every car was carefully sampled with a plunger by drawing samples from all parts of the car, and in a thorough manner, and there is no question but that the grain was honestly and fairly graded.

I noticed certain cars arriving and inspecting No. 4, and justly so, for the quality and condition of the corn was such that it never should have come to the New Orleans market with the expectation of its grading better, the corn being green and full of sap and not entitled to any better grade than No. 4. Several cars arriving in bad order on account of leaky roofs were graded No Grade, and justly so, for it was surprising to see the actual damage to a car of corn resulting from a defective roof. Shippers would do well to carefully inspect the roof of each and every car, and if not in good condition to reject it.

There was one point that very favorably impressed me, and that was the fact that in unfavorable weather conditions no grain was inspected.

Cars were permitted to stand on the elevator track unopened until weather conditions changed, so that the shipper got the benefit of that; for it is a well-known fact that with damp, foggy weather grain takes on moisture rapidly and will not show up as well as when the weather is clear and bright. I do not know of another market in the country where this consideration is shown the shipper, but it is the rule in the New Orleans market.

Concerning the Illinois Central facilities for handling grain, during the past month [December] we shipped possibly 250 to 300 cars of corn to New Orleans. Our shipments have been going through in from five to twelve days' time, the average being under eight days from the time the corn was loaded by us until it was received and unloaded in the elevators at New Orleans. Better service than this could not be expected nor asked for; for experience has demonstrated the fact that even in shipping to Chicago, owing to the congested condition of the yards there, it will require practically the same time to get a shipment into the elevator at Chicago. One day of my visit, for example, there was but one car of grain on track in the Illinois Central yards at New Orleans at the close of the day's business, indicating the promptness with which the grain is handled.

Elevators "D" and "E," which were destroyed by fire last February, have been rebuilt complete and are model elevators in every respect. Their system of unloading and weighing could not be improved upon; and in connection with the terminal facilities the Illinois Central Railroad at New Orleans, a more ideal condition of affairs with reference to the prompt handling of grain could not be imagined.

My observation is that the Illinois Central Railroad Company, the New Orleans Board of Trade, including the inspection department, and all parties concerned are determined to do everything in their power to make the New Orleans market an attractive one to the shippers of grain; and I venture the assertion that a shipper using good judgment in the character of the grain sent to that market, and following this up with watching closely the condition of the cars with reference to the roof and the coopering of same, will find that market a very attractive one.

Yours truly, W. L. SHELLABARGER,
Secretary Sheliabarger Elevator Company,
Decatur, Ill.

COLD STORAGE VS. WEEVIL.

The Agricultural Department has discovered by tests what might readily have been inferred without, that cold is a specific against the operations of weevils in grain. In Bulletin 54 the results of studies of this character, applied to cowpeas, extending over nearly two years, are summarized in the statement that cowpeas can be kept free from weevils if stored in a temperature of 32 degrees to 34 degrees F. and that this method is "far more satisfactory than the methods of fumigation that have been so generally used."

Cold will of course keep weevils inactive, but when the adjective "best" is applied to a method of this nature, the relative cost of cold storage and fumigation must be considered as a factor, and as the cost of storing in a temperature maintained artificially at 32 to 34 degrees F. is from 15 to 25 cents a bushel, it can hardly be compared with that of fumigation, which by killing the weevils renders them harmless, of course without in the least damaging the peas for food or seed.

However, if one wishes to store cowpeas or other seeds in a refrigerator, the suggestions of the Department are apropos, that—

Cowpeas, when kept in cold storage, should be handled in bags, just as in the warehouse. The objection frequently raised by those who are unfamiliar with the cold storage method is that of excessive moisture, the contention being that cold storage would necessitate special containers. This objection, however, is not a valid one, for at a temperature of 32 degrees to 34 degrees F.,

the air can contain but a comparatively small quantity of water vapor. Furthermore, at low temperatures moisture is much less deleterious to vitality than at temperatures such as are found during the summer months in warm, moist climates, where seeds of all kinds soon lose their vitality. It is, however, desirable to keep the seed as dry as possible, and separate cold storage rooms should be provided for stock of this character.

If the bags of seed are taken from cold storage and placed in a warm, moist room, there may be in exceptional cases a sufficient condensation of moisture to cause "sweating." But if the cold storage room has been dry and a good circulation of air is maintained between the bags for a short time after they are taken from cold storage, the temperature of the seed will soon be the same as that of the surrounding air and the danger of "sweating" will be overcome.

R. W. VAN TASSELL, PRESIDENT.

The Peoria Board of Trade on January 8 elected R. W. Van Tassell to be president of that association of grain merchants.

Mr. Van Tassell is head of the Van Tassell Grain Co. and has been a member of the Board for twenty



R. W. VAN TASSEL, PEORIA.

years. He has at various times received honors from the members, having been for the past two years first vice-president and served his first term as president several years ago. For over fifteen years he has been a member of the board of directors, and his influence on the Board has been a strong one for many years.

Mr. Van Tassell's inauguration took place on January 9, with rather more than the usual ceremonial. At least one novelty was introduced—a miniature steamboat labeled "Illinois-Mississippi Deep Waterway" was brought in. When the cargo was discharged it was found to consist of oranges and cigars.

Adolph Woolner, the retiring president, introduced Mr. Van Tassell, who, after some personal references and justifiable tributes to the Peoria Board of Trade, its membership and its methods of doing business, among other things said:

Probably more than 90 per cent of the shipments of grain from Peoria to the East is sold to buyers who accept the grading of the Peoria Board of Trade inspection department and Peoria Board of Trade weighers' certificates as final. And this has continued from year to year with hundreds of Eastern buyers who are regular patrons of your market and who, therefore, have great satisfaction in placing their orders where they get such reliable and satisfactory service.

What I have said so far has been of the past and present. What of the future? I desire to impress upon you my belief that there is more for us ahead than we have left behind. Peoria is a natural railroad center. This is being realized more fully every day, and we have substantial evidence of it in the efforts of the leading railroads

of both the East and West to get a foothold in Peoria.

The quick handling of freight and the product of our numerous industries is of the greatest importance to Peoria and you should see to it that all that is possible toward that end is done. For time is money to the railroads; and if the switching companies of Peoria keep things moving at reasonable terminal charges the east and west lines will see that it is to their interest to make Peoria their gateway in preference to passing through the congested and crowded terminals of larger cities.

And while we are urging on the railroads to the best service for our market, let us not forget to do our part, reaching out for larger territory for Peoria, for more business for Peoria, for better ways of doing business and improving if possible our facilities and manner of handling such business as we already have secured. And let us plan together along these lines, and in our planning do that which will serve best the interests of our market as a whole, putting aside lesser important personal preferences, and all pull together for the best interest and further development of our market.

And that we may pull well together we should know each other well. We are acquainted for the most part only with the business life of our members. We should cultivate the social side more—show more good-fellowship, mingle together occasionally, when the strain of business can be laid aside. And to start something of this nature, I have undertaken to provide some entertainment, which I hope may prove a success and a pleasure to every member of this Board. But that it may be a success, I trust that you will assist me in such tasks as I may request of you, for without some assistance from you it will fail of its purpose.

He concluded by inviting the members of the Board to a fellowship dinner at the new Creve Cœur Club at a later date.

NATIONAL INSPECTION OF GRAIN.

Senator McCumber has again introduced in the United States Senate his bill providing for the inspection of grain moving in interstate commerce by agents of the Agricultural Department. The bill varies but little if any from the one introduced by the senator two years or more ago, and has no merit. The only sections of real interest are the following:

Section 6. That the secretary of agriculture be, and he is hereby, authorized and required, as soon as may be after the enactment hereof, to determine and fix, according to such standards as he may prescribe, such classification and grading of wheat, flax, corn, rye, oats, barley and other grains as in his judgment the usages of trade warrant and permit, having reference to the standard, classification and grades now recognized by the several chambers of commerce and boards of trade in the United States. Provided, however, that the reference to such various classifications and grades shall serve only as a guide and suggestion in the matter of determining and fixing, by the secretary, the United States standard herein provided for, but he shall not be controlled thereby, but shall determine and fix such standard and such classification and grades as will, in his judgment, best subserve the interests of the public in the conduct of interstate trade and commerce in grain.

Section 7. That when such standard is fixed and the classification and grades determined upon, the same shall be made matter of permanent record in the Agricultural Department, and public notice thereof shall be given in such manner as the secretary shall direct, and thereafter such classification and grades shall be known as the United States standard. All persons interested shall have access to said record at such convenient times and under such reasonable regulations as the secretary may prescribe, and on the payment of such proper charge as the secretary may fix a certified copy of the classification and grades shall be supplied to those who may apply for the same.

Section 8. That from and after thirty days after such classification and grades have been determined upon and fixed and duly placed on record as herein provided, such classification and grading shall be taken and held to be the standard in all interstate trade and commerce in grain in all cases where no standard is agreed upon. Provided, however, that in interstate trade or commerce in grain, if the consignor thereof or his authorized agent shall so direct, public inspection, classification or grading shall not be required nor made when said grain is consigned to the owner thereof or his authorized agent or to a mill or private storehouse; or, for deposit in a special bin, to a public warehouse; or, the purchaser consenting, to a purchaser

thereof; or, if consigned to a market where the usages of trade recognize sales of grain by sample, when the consignor shall direct its sale by sample.

The introduction of the bill seems to have attracted little or no attention in the trade except that State Inspector Arrasmith of Washington is disposed to take a fall out of a straw man in this connection, which he himself, and not the bill in question, has set up as a target for criticism, Senator McCumber himself having as little notion of what inspection nationally uniform means. Mr. Arrasmith said:

I think that no general or uniform federal standard or grade of grain can be made to apply to the various grades of wheat grown in different portions of the country. The difference in the character of the same variety of wheat grown in different sections of a country is proverbial and is one of the strongest arguments against a uniform classification. You might take the same variety of wheat that is grown in North Dakota, where Senator McCumber lives, and bring it out to this country, and it would produce a less hard, but at the same time a rounder and more plump berry.

In other words, it would, to all intents and purposes, be a different kind of grain, and, therefore, the same grade and classification for the same variety of wheat grown in Dakota and grown in Washington would be misleading; and I think in the end it would work a great hardship on farmers and the grain interests. Foreign shippers getting No. 1 Bluestem from the Dakotas one season and ordering the same from the Pacific Coast the next season would find a wide difference in the grain, though they might both be correctly graded No. 1 Bluestem.

MILLERS COMPLAIN.

The art of mixing grain has, of course, been developed to a degree, and the expert, given the materials to work with, is equal to any combination desired or imagined. Millers and foreign buyers have learned this fact by experience, and have not failed to complain that in practice experts habitually "overdo it." No central market has a monopoly of these expert blenders; but at the immediate present, Kansas City is standing in the limelight of millers' disfavor because of the manipulation of wheat in the elevators. "Nearly everything that goes into the elevator there," said a miller recently, "comes out as No. 2;" and during December last, some thirty-five of the more important milling firms were represented at a meeting at Kansas City to consider the matter of securing a more strict enforcement of the rules applying to the out-inspection of the various grades of wheat. The meeting was presided over by A. J. Hunt of Arkansas City, Kan., and F. D. Stevens of Wichita, Kan., was the secretary. Two committees separately brought in resolutions touching upon this subject. One of the resolutions read:

Whereas, The rules governing the inspection of wheat by the Missouri Inspection Department are as follows: "No. 1 red to be bright, sound, plump, dry and well-cleaned red winter wheat, weighing not less than sixty-one pounds to the measured bushel; No. 2 red to be sound, well cleaned, dry red winter wheat, weighing not less than fifty-nine pounds to the measured bushel; No. 3 red to be sound, reasonably clean red winter wheat below No. 2, weighing not less than fifty-six pounds to the measured bushel; No. 1 to be sound, dry and clean hard winter wheat and to weigh not less than sixty-one pounds to the bushel; No. 2 to be sound, dry and clean hard winter wheat, and to weigh not less than fifty-nine pounds to the bushel; No. 3 to be sound and reasonably clean hard winter wheat, and to weigh not less than fifty-six pounds to the bushel; No. 4 to be reasonably sound, thin, tough or bleached hard winter wheat, unfit to grade No. 3 hard;" and

Whereas, It is a well-known fact that "scoured wheat" is now allowed by Missouri inspectors to pass as No. 1, No. 2 and No. 3 wheat, to the great detriment of the milling industry, one of our state's greatest industries; therefore, be it

Resolved, That a strong effort be made to have our honorable Board of Railroad and Warehouse Commissioners amend the present rules so that no wheat that has been scoured or clipped shall be admitted to the No. 2 or No. 3 grades of wheat.

The other resolution was as follows:

Resolved, That we, your committee, recommend to the different associations which we represent that the grading of wheat is such in the markets

of Kansas City and Omaha that in our judgment the millers should refrain from buying at either of these markets on the grades as now made by the present inspectors, for the reason that the wheat as delivered is so "doctored" that it is undesirable for milling purposes. We further recommend that all purchases be made by samples exclusively on these markets.

Both resolutions were adopted.

Millers realize the benefit to the grain of the cleaning it receives in the elevator; but they object to the disposition made of the screenings—the bin-burnt and stock-burnt grain, as well as that damaged by smut, bleaching, etc.; and the second resolution adopted is but the formulation of a feeling that has been expressed for a year or more in various forms at every meeting of winter wheat millers who buy grain at either St. Louis or Kansas City.

L. L. SADLER.

The newly elected president of the Cincinnati Chamber of Commerce, L. L. Sadler, of the live stock firm of J. F. Sadler & Co., is a man of large



L. L. SADLER, CINCINNATI.

interests, who has been identified with the history and growth of Cincinnati for many years.

Mr. Sadler was born a farmer's boy in Butler County, Ohio, on August 1, 1843, and passed his early years on the farm. At the age of fifteen he took up the printing business and later taught a district school until 1862, when he enlisted as private in Company C, 93d O. V. I. He was soon promoted to first sergeant and served in many engagements, notably at Stone River, where he was wounded, Liberty Gap, Chickamauga and Missionary Ridge. He was wounded so severely at Missionary Ridge as to be unable to do further active service and was mustered out in 1865. It was soon after this that he went to Cincinnati, where he entered the live stock commission house of Fort, Havens & Co. In 1869 he was admitted as co-partner and through some few changes and death of J. F. Sadler he became sole proprietor of the business of J. F. Sadler & Co. in 1898, as well as co-partner in the live stock commission house of Sadler, Huddleston & Co. of Buffalo, N. Y.

Mr. Sadler has been a member of the Cincinnati Chamber of Commerce since 1869 and has served as director and first vice-president. He has served the city government also in various ways. At the election on the 10th inst. he polled 514 votes out of 514 cast.

Buffalo's receipts of 3,689,788 bushels of grain (2,074,100 bushels of wheat and 1,268,000 of flax) on December 9 made the day one of the record ones of that port.

[For the Indiana Grain Dealers' Association.]

THE HESSIAN FLY.

BY F. M. WEBSTER,

Of the United States Department of Agriculture.

Though this is one of the most destructive insects in America and its ravages have been known in the wheat fields of the United States for over a century, still there is a lamentable deficiency in our knowledge of its habits and development. The student of entomology knows the insect in its several stages, when he sees it, but not one farmer in twenty-five has ever seen the fly itself or its eggs, and even a still less number have what might be termed a business acquaintance with it. For these reasons, the pest continues a very obscure mystery to a majority of farmers and at irregular intervals the wheat grower finds himself more or less completely at its mercy.

While it is true that this insect can never be exterminated in the country, it is entirely practical to greatly reduce its destructiveness. But to do this it is imperative that the farmer become better acquainted with the pest itself and its habits on his own premises. Speaking broadly, the habits of the Hessian fly are the same the world over; that is to say, the parent is always a fly, which deposits eggs which hatch to maggots; and of these, becoming full fed, the skin hardens and changes to brown, and we have what has long been termed the "flax seed" stage, on account of a fancied resemblance to flax seed. Under ordinary conditions, we may expect to find the insect in one or the other of these stages at certain periods of the year, but the exact date varies greatly with location and weather conditions, and this is why I say a farmer should study it at home.

To illustrate the last statement: The female is abroad laying her eggs in northern Michigan in August, while in South Carolina, northern Georgia and Alabama it may be late November and early December ere she has come and gone. In the spring wheat region of Minnesota and the Dakotas she will probably not appear until the following spring.

Throughout the greater portion of the region of winter wheat growing there are two annual broods, or generations, each year, the spring brood of adults appearing in March in the South, and probably not until June in the far North, while in Minnesota and the Dakotas there seems to be but one, the fall brood being eliminated and the spring brood continuing in the stubbles until the following spring, in the so-called flax seed stage. Thus it will be observed that location may have much to do with the time of appearance and number of broods.

Another feature in the life history of the Hessian fly, of the greatest importance to the wheat grower, is the fact that it is not found attacking any of the grasses, even cheat escaping injury; and the same weather conditions that will prevent the germination of the seed and growth of the young wheat plants in the fall also retards the appearance of the adult insects.

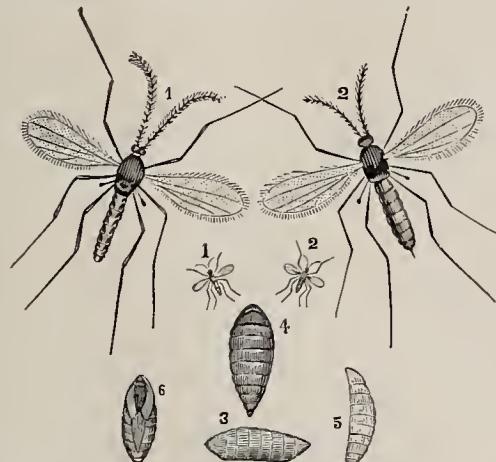
Here, then, we have two propositions, both of the greatest importance to the farmer: First, the flies appear earlier to the southward and later to the northward in spring, but in fall earlier to the northward and later to the southward; second, very dry weather has a tendency to delay the appearance of the female fly, and hence the deposition of eggs in any locality. Both of these are, as I shall show, of the greatest importance when we come to seek measures of prevention.

Now as to the appearance of the insect itself. I am often told by farmers that they have seen the fly in their fields in great numbers; that they have found a great many eggs in the plants; that the fly is or has eaten up their wheat. In ninety-nine cases out of a hundred the statement is incorrect, as those making it will later admit, after seeing the pest itself.

The fly itself is not conspicuous, resembling somewhat a small mosquito, but not nearly so

large; is of a dusky color, and, if observed in the field at all, will usually be found on the upper side of the leaf, or flying slowly about among the plants, requiring a very keen eye to detect it. The eggs are very difficult to find until one knows just when to look and what to look for, and are usually deposited in the grooves of the upper side of the leaf. Placed end to end, it would require a large number to measure an inch, and they are only about one-fourth as wide as long; the color is reddish, not in the least resembling what are generally mistaken for the eggs.

There appears to be a prevailing mistake among farmers regarding the low temperature which these eggs will withstand. We have kept them for seventy-two hours in a temperature of 38 degrees to 40 degrees, or six to eight degrees above freezing, would appearing to injure them in the least. The plan, as followed by some farmers, of delaying sowing until after frost in the fall, does not derive its supposed benefit from the effect of the frost,



The Hessian Fly.—1. Male, natural size. 2. Female, natural size. 3. Larva, magnified. 4 and 6. Pupa, or flaxseed, magnified. 5. Larva, lateral view.—After Forbes.

but more likely from the fact that the delay in sowing has been extended beyond the period of occurrence of adults in sufficient numbers to give rise to larvæ enough to cause serious injuries.

The young maggots that hatch from the eggs, within a few days after they are deposited, are at first but little larger than the egg and of a reddish tinge. They at once work their way down the leaf to the base. In young wheat this is just above the root; but in spring, if in fall wheat, they continue to the base of the sheath, which leaves them just above some of the lower joints. In either case, they are always on the outside of the stem and under the base of the sheath or leaf. They do not eat the plant in any case, but absorb the sap that should go into the stem and head, and become gradually impressed, as it were, in the stem itself. This last character distinguishes it from any other insect attacking the stems of wheat. Soon after descending to the base of the leaf or sheath, as the case may be, the maggots lose the reddish hue and become nearly white, later changing to a light glassy green, clouded with white. When full grown, the skin gradually hardens and turns brown, and we have the so-called flax seed stage, during which no food is required. The young maggots follow each other downward from the place of hatching on the leaf, and, when excessively abundant, they may be found in the fall packed about the center of the young plant, the end of one pushed under the other, the "flax seeds" sometimes showing the same positions. This last is the resting stage of the insect, in which it passes the summer and winter in the South and winter in the North. It must be remembered that in this insect the maggots alone feed and increase in size, the flies not feeding, so far as known, and never increasing in size after emerging from the "flax seeds."

While the foregoing may appear to the wheat grower to have more scientific than economic value, the truth is that every habit and characteristic of the pest is of economic importance, and a full knowledge of these is essential to an intelligent effort toward its control.

Now, having given some of the more important facts relating to the life history and development of the pest throughout its range in the United States, we can proceed to discuss methods of prevention and control in the winter wheat section, and especially in the country between the Ohio River and the Great Lakes, on the one hand, and between the Mississippi River and the Alleghany Mountains on the other.

If I were obliged to give a recipe for fighting Hessian fly, and were to be restricted to two words, those two would be "Good Farming," in all that these terms imply; and they would cover the ground. Therefore, intelligent control of this pest in American wheat fields might as well be understood in the beginning as not alone implying, but demanding, a better system of agriculture than at present generally prevails.

The Hessian fly cannot be successfully controlled in sections where wheat is sown year after year on the same ground. The Hessian fly cannot be successfully controlled where the soil is too impoverished to develop and sustain vigorous plant growth. The Hessian fly cannot be controlled where poor seed is sown on improperly prepared land. The Hessian fly cannot be controlled where sowing is done and the young wheat has come up before the eggs have been deposited in the fall. On the other hand, if all wheat growers in a community will follow a strict system of rotation, so that wheat shall not be sown continuously on the same ground; bring the soil into a good state of fertility; carefully and thoroughly prepare the ground before sowing, and then sow reasonably late in the season, there need be no serious losses by reason of attacks of this pest.

The reasons for this are not at all obscure, when we come to know the habits of the pest. As has been stated, the insect passes the summer in the stubble. The flies are frail creatures, most of the brood appearing within the period of a few days; and they are very short-lived, the greater number appearing and dying within a week. If, then, these tiny insects are obliged to travel a considerable distance from the stubble to young wheat, storms or adverse winds will destroy countless numbers, or drive myriads of them astray, so that of the millions leaving the stubble but few arrive at the young wheat to lay their eggs. But if these flies have but to come out from the stubble directly into the midst of young plants, no migration is necessary and mortalities are thus reduced to the minimum. Generally speaking, it might be said that in this case every female that issues from the stubble may get in her work of egg laying on the young plants without hindrance. The fact of benefits being derived, other than entomological, by crop rotation, I will not here discuss further than to call attention to the fact that rotation of crops bespeaks more vigorous growing plants.

It will be well for the wheat grower to keep in mind that between animal and plant life there is much in common. In the hen's egg there is enough material to develop a chick and sustain its life until it can break the shell and get its food supply from the outer world. Just so the healthy kernel of wheat has sufficient nutriment to start a sprout upward and support it until the primary system of rootlets can be pushed out into the soil and the young shoot begin to draw its sustenance from the ground. This primary root system, in some respects, represents the infant teeth in man, as, later, when the plant has grown up into the air and light and begins to tiller, another, permanent, system of roots is thrown out, higher up and nearer the surface of the ground, and the first system dies out and disappears. Now, if both of these root systems, as soon as they push out, penetrate at once into a fine, compact, rich soil, the plant will be full of vigor, grow and thrive until the approach of winter. While all of this does not constitute absolute protection from Hessian fly attack, plants of this character will withstand a quite severe attack with practically slight injury only. Indeed, at times when the first shoot is sent upward from the kernel and the female fly has found and deposited

her eggs upon it and the shoot is afterwards killed, the effect is to stimulate tillering, and, if in a fertile soil, is often more of a benefit than an injury.

[TO BE CONCLUDED.]

THE WHEAT-JOINT WORM.

The Michigan State Experiment Station gave some hints last fall in regard to the wheat-joint worm, and the means which may be used to minimize loss from this source. This worm is a periodical visitor in Michigan and other wheat states, but it is ordinarily held in check by parasites. Occasionally the latter lose control and



WHEAT-JOINT WORM (*ISOSOMA TRITICI*) AND ITS WORK.

a, adult fly, reduced from Howard; b, injured wheat stems, from Riley.

then the pests multiply. Something over 22 years ago there was such a visitation in Michigan.

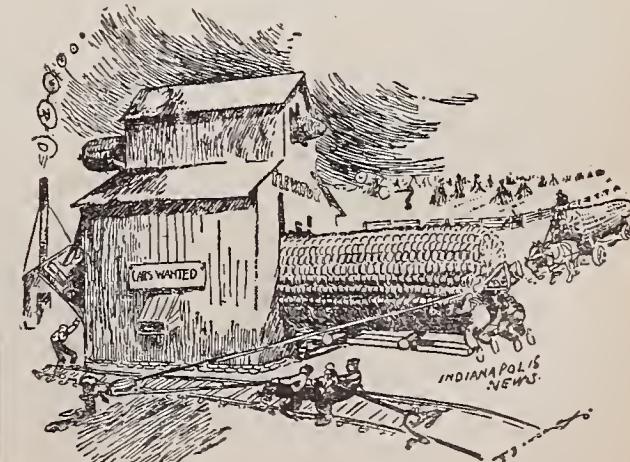
The two wheat straw worms are the wheat-joint worm (*Isosoma tritici*, Fitch), and the wheat-straw worm (*Isosoma grande*, Riley), both nearly allied. The joint worm is the larva of a small wasp-like insect considerably smaller than a mosquito. The eggs of this creature are laid in the stalk of the wheat just above the joints, usually the lower joints, although in bad cases all of the joints have been seen to be infested. The young larvae or grubs which come from these eggs burrow into the stem, usually from four to five to a dozen above a joint. They cause the stalk to become woody and hard in the vicinity of their burrows. Here they attain their full growth and change to pupæ, which stage corresponds to the cocoon stage of many insects. In these hardened woody sections they remain all winter, coming out in the spring to perpetuate their race.

The thickening of the stem in this way, of course, interferes with the proper ripening of the berry, and for this reason wheat from infested stalks is likely to be shriveled. Furthermore, the grain is apt to lodge or go down if there is much wind and wet weather just before harvest. The loss is often very serious, as the yield is cut down often one-half.

The insects pass the winter in the hardened sections of the straw. All methods of control look to the destruction of the straw and especially of these hardened sections. If all of the straw could be destroyed in the fall it follows that the insects would disappear on the instant.

The Peoria Glucose Works, employing 900 men when in operation, has been closed for more than a year.

TROUBLES OF THE CORN BELT.



THE YEAR 1905.

It would be supererogation to dwell here on the abundance of the grain crops of the year 1905, already dwelt upon and worked over and over ad nauseam by innumerable writers from Secretary Wilson at Washington to Curtis, Carpenter and the rest, who have "done their dumdest" to convince the world that it has "grain to burn." There was a lot of it, of course; and the records of the nation will in future days continue to say that "1905 was a red ink year" for the American farmer, as it was, to be sure; for the secretary of agriculture says the production for 1905 and 1904, in bushels, was as follows:

Crops, in bushels.	1905.	1904.
Corn.....	2,707,993,540	2,487,480,934
Winter wheat.....	428,462,834	332,925,346
Spring wheat.....	264,516,655	219,464,171
Oats.....	953,216,197	894,595,552
Barley.....	136,651,020	139,784,958
Rye.....	27,816,045	27,334,563
Buckwheat.....	14,585,082	15,008,336
Flax seed.....	28,477,753	23,400,534
Rice.....	12,933,436	21,096,038
Potatoes.....	260,741,294	332,830,300
*Hay.....	60,531,611	60,696,028
*Tobacco.....	633,038,719	660,460,739
*Tons. *Pounds		

Just now, however, a few statistics of what the exchanges of the country handled during the calendar year will be of interest. It will not indicate, of course, the immensity of 1905 to the farmer, as it will include transactions for part of two crops (1904 and 1905)—a short and a long one—and will make up a good average only.

BALTIMORE.—Baltimore, which in 1903 and 1904 was decidedly in the dumps, has recovered her position, and with the crop of 1905 is doing a tremendous business, especially in export stuff, which during 1903 and 1904 brokers had practically abandoned to make a living in the interior trade. Now the port is handicapped for want of elevator facilities, and the Pennsylvania Railroad Co. will be asked to build a new house to relieve the pressure. Secretary H. A. Wroth, of the Chamber of Commerce, reports the following totals of grain handled during the year:

Articles.	Receipts.	Shipments.
	1905.	1904.
Wheat, bushels.....	4,466,711	3,861,707
Corn, bushels.....	17,313,847	10,035,307
Oats, bushels.....	8,592,622	2,825,016
Barley, bushels.....	22,437	85,456
Rye, bushels.....	835,123	778,736
Timothy seed, pounds.....	44,284	76,148
Clover seed, pounds.....	36,209	66,864
Hay, tons.....	68,577	59,865
Flour, barrels.....	2,278,039	2,096,709
	1,775,458	504,843
	6,271,039	2,509,651
	7,224,295	4,595,703
	11,709,697	2,671,786
	5,254,192	6,108,790
	38,772	32,596
	1,473,547	325,523
	2,986	3,320
	13,420	16,469
	35,409	39,674
	158,397	95,258
	60,174	61,881
	147,050	155,210
		14,620
		14,648

BOSTON.—Like Baltimore Boston is again enjoying her old-time activity in the export line, with the returning foreign demand and abundant grain to meet it; and the totals of Secretary Morss of the Chamber of Commerce for the year show great prosperity at "The Hub:"

Articles.	Receipts.	Shipments.
	1905.	1904.
Flour, barrels.....	1,669,145	1,775,458
Wheat, bushels.....	6,271,039	504,843
Corn, bushels.....	11,709,697	650,681
Oats, bushels.....	5,254,192	2,671,786
Rye, bushels.....	38,772	2,509,651
Barley, bushels.....	1,473,547	4,595,703
Flax seed, bushels.....	2,986	2,224,295
Millfeed, tons.....	13,420	10,035,307
Cornmeal, barrels.....	35,409	15,258
Oatmeal, barrels.....	158,397	11,709,697
Oatmeal, sacks.....	60,174	11,709,697
Hay, tons.....	147,050	155,210

BUFFALO.—Buffalo, as the great transfer point of the Great Lakes, did an immense business in 1905, the only break in which was the impotency of the trunk lines eastward. Their failure to meet the exigencies of the situation has passed the stage when even railroad men offer an excuse for it. Report by Secretary F. Howard Mason of the Chamber of Commerce is for lake receipts and canal shipments only (hay shipments for 1905 and 1904 are in pounds, not bales, as noted in receipts):

Articles.	Receipts, Lake.	Shipments, Canal.
	1905.	1904.
Wheat, bushels.....	40,436,616	26,228,878
Corn, bushels.....	32,715,046	27,850,969
Oats, bushels.....	25,733,094	18,404,883
Barley, bushels.....	14,618,495	15,252,991
Rye, bushels.....	688,452	1,645,948
Other grass seed, lbs.	216,754	163,735
Flax seed, bushels.....	12,244,026	10,208,701
Broom corn, bales.....	1,422	3,388
Hay, tons.....	750	10,201,100
Flour, bbls.....	10,201,100	6,160,955

*Pounds.

CHICAGO.—"Chicago," Secretary Stone of the Board of Trade says in a daily paper review of the

year, "maintained its ascendancy among the great food markets of the world. Her receipts of wheat, corn, oats, rye, barley and flour in its wheat equivalent aggregated about 296,000,000 bushels, which is an increase of 31,000,000 bushels over corresponding receipts during the year 1904: her shipments of these articles during the year aggregate about 213,000,000 bushels, varying slightly from the corresponding figures for 1904. Thus, it may be seen that Chicago handled during the year about 509,000,000 bushels of grain, counting flour in its wheat equivalent."

The actual receipts and shipments were as follows, as reported by Geo. F. Stone:

Articles.	Receipts	Shipments
	1905.	1904.
Wheat, bushels.....	26,899,012	23,457,347
Corn, bushels.....	110,823,444	100,543,207
Oats, bushels.....	92,486,761	73,023,119
Barley, bushels.....	28,074,142	25,316,917
Rye, bushels.....	2,392,444	2,379,367
Timothy seed, pounds.....	53,346,755	61,989,872
Clover seed, pounds.....	4,668,715	7,920,245
Other grass seed, lbs.....	20,574,443	18,812,780
Flax seed, bushels.....	2,890,241	3,337,313
Broom corn, pounds.....	16,788,684	19,456,467
Hay, tons.....	245,652	252,370
Flour, barrels.....	7,944,955	8,839,220

The Board of Trade, as a corporation, has had a prosperous year. The total number of members is 1,777, eight less than at the close of 1904. There were five expulsions and three memberships bought in by the Board. Sales ranged from \$2,875 to \$3,325, the last transaction of the year at \$3,150. Clearances and balances for the year, with comparisons, are shown as follows:

Date.	Clearings.	Balances.
January.....	\$ 2,984,406.25	\$ 1,104,147.93
February.....	2,736,696.25	1,098,786.22
March.....	5,954,146.25	2,104,184.35
April.....	6,459,676.25	2,406,082.41
May.....	6,478,781.25	2,324,505.11
June.....	5,482,447.50	1,573,778.85
July.....	7,148,356.25	2,053,750.92
August.....	4,788,712.25	1,565,077.23
September.....	3,778,402.00	1,422,991.88
October.....	3,681,148.75	1,351,012.64
November.....	4,063,688.75	1,326,071.62
December 1 to 28.....	3,237,888.75	1,033,778.85
Totals 1905.....	\$56,794,345.50	\$19,369,168.01
Totals 1901.....	74,476,955.00	25,586,387
Totals 1902.....	83,590,507.50	27,668,595.95
Totals 1903.....	72,118,163.74	22,273,221.15
Totals 1904.....	99,101,957.50	31,999,278.69

CINCINNATI.—Superintendent C. B. Murray of the Chamber of Commerce makes the following report of the receipts and shipments at Cincinnati for the year 1905:

Articles.	Receipts.	Shipments.
	1905.	1904.
Wheat, bushels.....	3,195,191	2,124,447
Corn, bushels.....	11,326,222	12,848,217
Oats, bushels.....	13,474,267	6,034,074
Barley, bushels.....	1,481,779	1,038,936
Malt, bushels.....	1,402,614	1,137,655
Rye, bushels.....	623,755	601,923
Timothy seed, bags.....	41,018	66,787
Clover seed, bags.....	27,440	29,278
Other grass seed, bags.....	114,696	84,839
Hay, tons.....	131,220	106,371
Flour, barrels.....	1,407,167	1,524,725

CLEVELAND.—The figures for Cleveland by Secretary Havens of the Chamber of Commerce are those by rail only:

Articles.	Receipts.	Shipments.
	1905.	1904.

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and oats more than trebled those of 1904, while exports of corn show an increase of about 33 per cent. The earlier months of 1905 were somewhat slow pending the maturing and harvesting of one of the country's greatest all-round crops, but the final weeks more than compensated for the wait.—Public Ledger.

The receipts and shipments for the market, as reported by L. J. Logan, secretary of the Commercial Exchange, were in 1905 as follows:

Articles.	Receipts.—		Shipments.—	
	1905.	1904.	1905.	1904.
Wheat, bushels.....	3,600,373	1,812,169	1,122,293	184,000
Corn, bushels.....	9,761,268	8,346,387	7,839,200	6,164,525
Oats, bushels.....	10,336,347	4,652,875	5,416,286	52,574
Barley, bushels.....	332,200	369,600	.....	.....
Rye, bushels.....	61,043	73,076	.....	.....
Timothy seed, bags.....	5,205	6,231	.....	.....
Clover seed, bags.....	4,129	4,493	.....	.....
Flax seed, bushels.....	554,600	600,800	.....	.....
Hay, tons.....	94,520	102,050	.....	.....
Flour, barrels.....	2,415,264	2,261,053	1,285,886	1,246,151

RICHMOND.—The Richmond Grain and Cotton Exchange briefly reports the year's receipts as follows:

Wheat, bushels.....	1,493,028
Corn, bushels.....	1,525,055
Oats, bushels.....	1,480,394
Rye, bushels.....	35,676
Hay, tons.....	24,076
Flour, barrels.....	162,208
Millfeed, tons.....	7,304

ST. JOSEPH.—The grain trade of St. Joseph, Mo., made a fairly good showing in 1905, in spite of the incapacity of the Elwood Elevator, the largest in the market. The annual receipts were as follows:

	Cars.	Bushels.
Wheat.....	1,804	1,804,000
Corn.....	2,619	2,880,900
Oats.....	230	345,000
Rye.....	18	19,800
Barley.....	12	14,400

Totals..... 4,683 5,064,100
The elevator capacity of the market is 1,000,000 bushels in three elevators and three mills.

ST. LOUIS.—The year's record, as reported by George H. Morgan, secretary of the Merchants' Exchange, is as follows:

Articles.	Receipts.—		Shipments.—	
	1905.	1904.	1905.	1904.
Wheat, bushels.....	21,034,439	23,148,133	18,239,778	24,040,540
Corn, bushels.....	18,067,903	18,246,325	14,544,103	16,770,368
Oats, bushels.....	19,278,363	17,109,295	16,060,470	12,880,310
Barley, bushels.....	2,921,183	3,163,000	287,681	493,803
Rye, bushels.....	569,706	671,185	492,316	767,297
Other grass seed, sacks.....	39,982	42,971	.....	.....
Flax seed, bushels.....	149,955	90,000	23,960	20,730
Hay, tons. 1 Local.....	188,940	210,510	.....	.....
Hay, tons. 1 Through.....	58,005	60,185	90,000	119,984
Flour, barrels.....	2,529,780	2,355,560	3,471,759	3,306,198

SAN FRANCISCO.—William B. Downes, statistician of the Merchants' Exchange, reports the following totals:

Articles.	Receipts.—		Shipments.—	
	1905.	1904.	1905.	1904.
Wheat, centals.....	3,719,994	3,161,106	184,466	1,192,391
Corn, centals.....	271,466	205,471	159,816	65,294
Oats, centals.....	689,055	832,110	51,609	92,218
Barley, centals.....	3,618,589	3,488,131	1,767,575	2,202,513
Rye, centals.....	46,447	64,906	.....	878
Flax seed, sacks.....	25,973	39,257	.....	.....
Hay, tons.....	181,971	176,403	25,355	26,956
Flour, barrels.....	1,037,484	1,295,590	592,689	836,231

TOLEDO.—Archibald Gassaway, secretary of the Produce Exchange, reports the following receipts and shipments at this market for the year 1905:

Articles.	Receipts.—		Shipments.—	
	1905.	1904.	1905.	1904.
Wheat, bushels.....	4,593,190	4,722,280	2,105,965	2,652,881
Corn, bushels.....	8,350,650	7,777,417	6,512,740	5,827,820
Oats, bushels.....	11,044,500	7,272,200	9,203,500	6,934,960
Barley, bushels.....	22,650	16,815	16,000	13,915
Rye, bushels.....	378,000	135,368	233,700	124,529
Clover seed, bags.....	76,881	97,384	67,599	117,262

CORN IN NORTHERN INDIANA AND OHIO.

The promise, during last growing season and the early fall, of a record crop of corn in Indiana and Ohio came with special welcome to grain dealers in those states, who had had for the year or two previous but indifferent business in and success with that cereal. But even this season, in spite of an unusually fine autumn for maturing corn, the crop is again disappointing now that the grain is ready to handle. This in part is due to the weather, which, combined with the very slow movement of the grain, owing to the lack of transportation facilities, has been most unfavorable; but it appears to go deeper than this, for, in speaking of the situation at January 1, E. W. Bassett of Indianapolis, in a review of the grain trade in that city for the year 1905, in the Star newspaper, says that—the quality of the corn, instead of being first-class,

as we had every reason to believe it would be, has been quite the contrary. It has continued soft and immature in this particular section [northern and eastern Indiana and throughout Ohio] from the time it was first handled in October until the present day, and when shelled and placed in the car and contained there a very few days has resulted in souring, heating, discoloring and musting. Farmers and country dealers apparently could not believe the poor quality of the corn which they were handling, and placed many cars in transit to distant markets only to find on arrival that they were in such damaged condition that they would bring scarcely 50 per cent of the anticipated value, and the loss to country dealers in the sections where this condition prevails cannot be otherwise than serious and almost beyond recovery.

There are, of course, various theories as to the cause of this particular condition, but one of the very potent reasons, to my mind, lies in the fact that the farmers of this state and Ohio have been too careless in selecting their seed corn for this year [1905], as well as for several years past, and the grain has been gradually deteriorating. This theory is strengthened by the fact that from the neighboring state of Illinois we have been receiving since the latter part of October corn of as fine quality as our country has ever produced.

But to revert to the corn produced in the sections noted, it would seem that country dealers should cease buying this corn altogether while it remains in its present condition. It is altogether possible, and it is even probable, that with clear, cold weather local grain dealers might buy Indiana and Ohio corn with safety, anticipating an export grade on the most of their shipments. But until we receive weather of this kind I would certainly advise caution in the purchasing of farmers' grain.

DURUM WHEAT.

Durum (macaroni) wheat, one of the peculiar pets of the Agricultural Department, has had many knockers in recent years, or since the Department, through M. A. Carleton, demonstrated that it is a profitable variety of wheat to grow on the arid and semi-arid lands of the West and Northwest. A very hard wheat, it was rejected by millers, who had not the machinery to grind it successfully, while the dark color of the flour gave it a black eye in most flour markets, where whiteness is the standard of quality. In consequence, the wheat, since it came on the market in quantity, has generally sold at a wide discount from the contract grades it has had to compete with. However, in the Northwest, where the production has been greatest (12,000,000 bushels this year), quite a number of mills are prepared to grind durum wheat (there are twenty-three mills in the entire country that grind durum exclusively), and to the terminal markets there European buyers send their purchase orders.

So marked were both the local objections to the durum wheat and the rapid increase in its production, it was predicted a year ago that if the production maintained its rate of increase the market would not be able this year to absorb the grain; yet soon after the movement was fairly started, it appeared that the exact contrary was true. The demand was, in fact, so active that durum has been selling in Europe since about October 1 at practically the same prices as No. 1 northern spring wheat shipped from Manitoba, and only a shade higher than No. 2 hard Kansas wheat. This disposes of the last great argument against the production of durum wheat—the contention that there would be no market for it.

Indeed, the behavior of durum wheat this season has been such that C. H. Thornton of the Duluth Commercial Record, the daily report of the Duluth Board of Trade, on or about October 17, said as the result of a careful watch of the market—

One of the genuine surprises of the fall season is the demand for durum wheat. Early in the summer American exporters offered and sold a little at 67 cents for No. 2 in the Duluth market. Since then there has been a steady advance of 7 cents a bushel, and owing to advancing lake, rail and ocean freights, foreign markets are really up equal to 12 cents a bushel. We are, in fact, getting bids at 12 cents advance over earlier prices, from the early buyers who have already received their initial shipments and know what the stuff is like.

And thereupon he tendered durum wheat "sincere

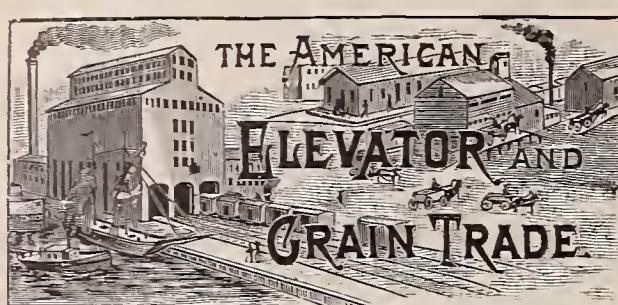
and abject apologies for all the mean things we have said about it or for printing mean things that others have said about it."

It is true that most of this wheat is going abroad; but there is a good reason for this. The foreign miller is of necessity an expert blender of wheats—he has to be, because he is dependent upon all the world for his grain, and so he is fixed for mixing wheats of the most diverse character; he is accustomed to grinding them; the American miller is not. American millers, in plenty, have understood the value and limitations of durum wheat, says the "American Miller." "That was no good reason why they should use it when they could get something that their trade was used to, as well as themselves; especially as the supply of the wheat has never been plentiful. Besides, some of the Northwestern mills commenced very soon to use it cautiously. Evidently they are 'getting onto its curves.' And they are not using it 'for the lower grades,' either, as a Minneapolis paper explained Kansas wheat was used, in accounting for the wheat movement north from the Sunflower State. But it was out of the question for durum to go into our mills from the first on the same footing as standard and well-known wheats. When its value is really known, it won't be a Cinderella."

In short, English millers blend the glutinous durum with the starchy natives or the equally weak wheats of California, say, to get strength and color; while our millers get both without much blending. For the same reason the botanists now at work at the California experiment stations to improve the native varieties are breeding durum with the native wheats to restore to the latter the lost gluten needed to bring California wheats back into the favor of the local millers. Of course American millers will in time take hold of the durum; for our farmers are not going to stop growing them—they yield too well for that, and even at the old discount they were more profitable than the familiar Scotch fife. For example, at Hazelton, N. D., a comparison was made between a field of durum and one of hard wheat. On a field of 44 acres a durum yield of 44 bushels of elevator weight is the record. The best yield of hard wheat so far reported there was 26 bushels and 10 pounds, which at 69 cents made a gross return of \$18.05 per acre for hard wheat while the above yield of durum at 55 cents made a gross return of \$26.40 per acre. The land was carefully measured that there might be no mistake in the reported yield. At Minot, N. D., a field of durum was harvested that went 37 bushels to the acre, notwithstanding the fact that 25 per cent of the yield was lost by reason of extensive lodging of the grain.

Since the above was written advices from Europe to the Commercial Record are supposed to throw new light on the foreign demand for durum, a French house writing that the heavy demand for American durum has been bought because of the failure to get the hard wheats of Russia and India in desired quantities, and not because the American durum was more satisfactory. They, in fact, say the American wheat is inferior, and that if in another year the hard wheat supply from the other countries should again be normal, the American wheat will not be wanted. But this depends on whether the French are the sole buyers of American durum, which is probably very far from the fact.

Secretary Potter has issued a list of changes, additions, etc., to the Wisconsin Grain Dealers' Association Directory for 1905, which he will send to bidders who may not have received copies.



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ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching persons connected with this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

CHICAGO, ILL., JANUARY 15, 1906.

Official Paper of the Illinois Grain Dealers' Association.

UNIFORM BILL OF LADING.

The meetings of the uniform bill of lading committee (composed of six shippers and six railroad men) have thus far been failures, so far as arriving at an agreement on a bill of lading is concerned. The railroad men insist that the shippers are "too exacting;" the shippers demand only that any bill of lading uttered shall carry the carrier's full common law liability, and their representatives will not recede from that demand.

This is the sole and only cause of the deadlock. It is of the railroads' making, seeking, as they do, to force upon the public a document that will enable them to avoid their ancient and universally recognized liability as common carriers for loss and damage in transit.

Now, in spite of the railroad men's pledge to the Commerce Commission not to use the proposed uniform bill, or any bill different from the one carrying the common law liability, until an agreement had been arrived at upon a new uniform bill, some of the roads are trying to force the objectionable bill of lading upon shippers, but as a matter of fact, for the time being, they have agreed to waive the non-negotiable feature of that document, provided the bills are consigned "to order" (said words "to order" appearing immediately before the name of the party to whom the goods are shipped); as was the case under Classification No. 25; that is, pending settlement, they have agreed to preserve the *statu quo* of that Classification.

But we would again call the shipper's attention to the necessity of scrutinizing the bills of lading offered him and of refusing to accept the new uniform bill except under the conditions provided in Classification No. 25; that is to say, a bill with the conditions thereof the same as

heretofore existing. Above all, do not sign any bills of lading or alleged receipts, as such signature may prove a waiver of all right to recover for loss or damage in transit.

THE SYSTEM AND THE MAN.

It is not because of the policeman that mankind obey the laws. Men are by nature honest and law abiding. The law and the policeman reach after the exceptions only. Where large bodies of men must needs be massed the secret of managerial success lies in the art of avoiding these exceptions and in pouring into this company of employes, or fellow servants, the spirit that dominates the leader.

The annual dinner given by the chief weighmaster, H. A. Foss, of the Chicago Board of Trade has a peculiar interest to the grain trade at large; for while one cannot tell in words how it is so, he feels, when in the midst of this fine body of men, that it is pervaded through and through by an abiding fealty to the ideas and principles for which their leader stands; that when personally confronted with direct questions of right when weighing the grain that comes to the Chicago market, the employes of the department stand as one man behind and in support of him whose personal influence is the active force felt at every scale beam over which the Chicago Board of Trade has jurisdiction—the chief weighmaster.

It is the personality of H. A. Foss that has made the Chicago Weighing Department a model for the grain trade—that and the policy of the Board to give him a free rein. It is the fortune of his men that they are privileged to work with him—to be led by him habitually into paths of even justice and unquestioning rectitude in or out of their scale lofts; and by their works are they known.

COLLECTING DAMAGES.

Shippers are aware, of course, that, unless they waive their rights by signing the uniform bill of lading, or other documents of like character, the carriers are liable to them in damages for all loss sustained on grain in transit. Such claims are paid daily by carriers without any question of their liability. But, naturally, there are thousands of claims of all shades of respectability presented to the carriers for payment, and in consequence, as the necessities of the case require and as is entirely fair and proper, the railway claim adjuster makes the claimant "prove his case."

No honest man can object to this, but, unfortunately, many honest men are not able to prove their losses, and suffer in consequence of their own neglect to take precautions to protect themselves in such a contingency. Mr. Wells, as chairman of the claims committee of the Iowa Association, notes the lack of evidence to substantiate a large number of the claims presented to his committee for collection, and every officer acting in a similar capacity elsewhere will make the same general report.

Now, whether it is practicable to go to the lengths suggested by Mr. Breed on another page, in discussing this condition of things, each man must decide for himself, but in the absence

of a "clean bill of lading," which few, if any, carriers will now issue, the man who is as careful as he might or should be will find in Mr. Breed's suggestions at least the basis of a method of providing the evidence which in case of a loss would be available to enable him to make his collection of damages without any serious inconvenience or delay.

OPPOSES UNIFORMITY.

State Inspector Arrasmith of Washington takes issue with Senator McCumber's bill for national inspection of grain, for the reason, as a Seattle paper quotes him, that,

I think that no general or uniform federal standard or grade of grain can be made to apply to the various grades of wheat grown in different portions of the country. The difference in the character of the same variety of wheat grown in different sections of a country is proverbial and is one of the strongest arguments against a uniform classification.

Now, as the various justices of the United States Supreme Court said in the Philippine decision, we agree to the decision, but for a different reason. The McCumber bill is bad because it means nothing—not even the uniformity Mr. Arrasmith complains of.

But is uniformity objectionable, *per se*? Is it bad in principle and practice for Mr. Arrasmith to inspect a given lot of wheat No. 1 Blue-stem at Seattle and have the same wheat, in the same physical condition, inspected as of the same grade at San Francisco, St. Louis, Chicago or Battle Creek also; or would he prefer to have it inspected as No. 3 Pink Pills for Pale People, as they might at a Battle Creek sanatorium, say?

The advocates of uniform inspection ask only for exchange regulations by agreement to define a given kind of grain in the same terms everywhere, and to require grain inspectors to grade it accordingly. The present practice, which Mr. Arrasmith would apparently like to have continue, is much the same as if a spade were called a spade in Seattle, a hay fork in Minneapolis, and a tooth coal shovel in Chicago.

CHICAGO INSPECTION RULES.

Chief Inspector Cowen announces that the Illinois Railroad and Warehouse Commissioners will hold a meeting in the visitors' room of the Chicago Board of Trade Building at 2:30 p. m. on January 25, for the purpose of giving all parties interested therein an opportunity to be heard on the proposed new rules governing the inspection of grain, as recently submitted to the trade by the inspector.

Now, although in reply to his request for written criticisms of the proposed rules, Mr. Cowen received comparatively few replies, it is to be hoped there will be at this meeting a greater show of interest in the proposed rules on the part of the country shipper. It is a great many years (perhaps thirty) since he has had such an opportunity to be heard in the making of a complete set of the rules that determine the ultimate character and disposition of the products he handles; and it is up to him now to take his advantages. Heretofore the country shipper has had his complaint

at the manner in which the rules have been interpreted by the track inspectors. If the rules themselves are not satisfactory he should say so, now he has the chance; or if they are satisfactory he should say that, too. Then when the proposed rules are accepted or rejected, the manner of their, or other, rules' interpretation can be again taken up.

MISSOURI'S WEIGHING LAW.

By a decision of the Missouri Supreme Court the jurisdiction of the Railroad and Warehouse Commission, as state weighers, is limited to public elevators only—the regular houses of the market; a fact that gives added significance to the remarks of Messrs. Breed and Wells, on this subject, found on another page.

With a jurisdiction so narrowed, it would seem good policy for the Commission to abandon all effort to interfere with the weighing systems superintended by the grain exchanges of St. Louis and Kansas City, which seem to be entirely satisfactory to the shipping trade, except for that unjustifiable appropriation of 100 pounds per car at Kansas City—a graft that practically all other self-respecting central markets long ago abolished.

Were Kansas City fair enough to cut out this grab at its patrons' grain the Commission could have no further excuse for meddling with the weighing systems mentioned; and by withdrawing the Commission would relieve the grain of at least one unnecessary item of expense, which, while not great in a single instance, in the total amounts to a large tax on the grain in transit through Missouri terminals.

STILL PLUGGING.

In spite of the conscientious and habitual effort of at least one grain trade organ to forcibly inject common sense and a regard for "honesty-is-the-best-policy" into shippers of grain and hay by the easy method of the editorial Tupperian paragraph, a habit into which the superior editorial mind readily falls, we notice with pain and surprise that the indeterminate "they" are still plugging.

This is discouraging. While it is only a month or so ago that this paper, gracefully seconded by its contemporaries, took occasion to point out at some length the sure detection of the plugger and the certainty of the "punishment that fits the crime"—pecuniary loss, yet even now Pittsburg reports, "plugged cars of hay again in evidence."

Is it true that the Tupperian paragraph is a failure? Is it true, as a clever essayist has said, that "the nature of each individual has its point of moral saturation;" that "when this point is reached it is of no use to continue exhortation or rebuke or any kind of didactic effort," for "even the finest quality of righteous indignation will no longer soak in;" that it is as useless to repeat to the plugger that plugging a car of hay is a waste of effort as it is to tell a Maine man that there is no fun in getting drunk on surreptitious whisky?

Or perhaps the superior mind is addressing the wrong party. Come to think of it, the plug-

ger would hardly enjoy the chunks of proverbial wisdom that habitually fall from the Tupperian paragrapher, who indeed places himself in the position of the preacher who belabors the regular church-goers for the sins of the non-church-goer; or of the temperance reformer who pictures to the habitually temperate spinster at class meeting the horrors contained in the cup of "red liquor."

Truly it is discouraging—this lecturing of the plugger while talking to the non-pluggers, as all good trade paper readers, of course, are—distressing, when one thinks that the best he can do is, perhaps, to turn the plugger over to the tender mercies of a market that "soaks him good and plenty" when the plug is discovered. This is heathenish, but surely it is the only way to get even with him.

THE NATIONAL ASSOCIATION.

In accordance with the instructions of that Association at the Niagara Falls meeting, the committee on constitution and by-laws of the Grain Dealers' National Association has revised that instrument and amended it to provide for a direct country membership in unaffiliated territory, the annual dues of such members to be \$3.

It appearing that all efforts of the officers of the Association to interest or to restore to affiliated membership the Western state associations which withdrew have been failures, the committee very properly considered that the Association should put itself in condition to meet the desire of many influential shippers in what is now unaffiliated territory to become members of and to support the National Association in order to get the benefit of its trade rules and its arbitration committee. And in making the amendment referred to, the Association has met the wishes of those members of the grain trade who have expressed themselves on the subject, who are now pretty generally of the opinion that the only safe policy for the officers of the National to adopt would be the one of providing for a direct country membership and at the same time continue old rules of affiliation, in order that any association electing to affiliate might do so in the future as it did in the past.

The revised constitution and by-laws, therefore, still provide for the affiliation of state and local associations, and there is no feature of the direct country membership proposition that can, in any way, interfere with the affiliation plan. Further, in making the announcement of this revision to the trade in unaffiliated territory, the directory confine themselves strictly to a presentation of the advantages of a direct membership in the National Association, and make no irrelevant comparisons to the injury of the state associations; since the National Association is as anxious now as it ever has been to enlist the financial and moral support of the various state associations through affiliation, and whenever invited the officers will continue to attend state meetings and in every other proper way earnestly strive to effect a reunion of the scattered forces.

The revised constitution and by-laws, as well as the revised Trade Rules of the Association,

are now in the printer's hands and will soon be ready for distribution, from the office of the secretary, 220 Gardner Building, Toledo, Ohio.

CORN GOING BAD.

As might have been expected in a season so unseasonably warm for handling new corn, a great many losses are reported from corn going to the bad, both in transit and in country elevators. This seems to be especially true in Indiana and parts of Ohio, where, in spite of an apparently favorable fall therefor, the corn has not cured at all as expected, or as it has elsewhere in the corn belt. The reason for this abnormal condition is not definitely understood. Iowa also reports many similar losses.

However, the problem of handling new corn in the fall and early winter is one that will annually confront the grain dealer. The farmer is getting wise. He is not above selling moisture at so much per bushel. He has concluded that, in the long run, the cash received for moisture and the interest thereon until spring is a better proposition than holding for a rise and losing the evaporation and taking himself the chance of the corn going bad on his hands between harvest and next spring.

If the weather is propitious and cars are so plenty that they can be depended on to arrive on demand for loading, the country dealer may safely co-operate with the farmer to move the corn early, beginning just as soon as it is cured enough to shell. When conditions do not favor this happy combination, the dealer pays the bill.

So it comes to this: The dealers who expect to do a safe business must be in a position to protect their grain in store against deterioration during railroad congestion. They should study, theoretically and practically, the art of drying and conditioning corn, and provide themselves with facilities therefor. These are no longer disproportionately expensive, nor are they so difficult to operate that any man of good judgment may not safely undertake their management. Dealers should also provide themselves with facilities for testing corn for its percentage of moisture, and the trade should put itself in position to protect those dealers who refuse to pay farmers for the moisture in corn offered for sale that is in excess of the limits of safety. A student and habitual inspector of corn can, by close observation and practice of the art, determine very accurately this limit by feeling the corn. Country buyers must cultivate this habit and rely on a mechanical demonstration in case of doubt.

NOT SATISFIED.

Kansas grain shippers have obtained an order for a 5 per cent reduction on freight rates in that state, equal, on a general average, it is said, to about half a cent a bushel on wheat. In most states this would be considered worth some thanks, seeing that it is not far from the total net profit earned by some grain dealers in handling it; but the order is hailed by the state press of Kansas as a "fiasco" because the reduction asked for—one-third—was refused. They always were queer out there—in parts of Kansas.

Editorial Mention.

The Bean Jobbers' Association of Michigan will hold a meeting at Detroit on January 26, the program of which appears on another page.

The only co-operative elevator in Michigan has renewed its capital several times since it was organized, but it's a "great success," of course—it isn't dead.

The annual meeting of the Kansas Grain Dealers' Association will be held at the Midland Hotel, Kansas City, on January 18 and 19. The very interesting program will be found on another page.

In an Indiana town the cobs from corn shellers are dumped into a furnace and burned, as the lumbermen used to destroy the slabs from their sawmills. Fuel must indeed be cheap, or the people thrifless, where such waste goes on.

In spite of unfavorable conditions, the amount of contract corn arriving in December in time to loosen the squeeze then on was surprisingly large, amounting on some days to as high as 25 per cent of the total. This large percentage was supplemented by the output of the driers. No wonder the squeeze machine got too hot to hang on to!

The spellbinder is about played out in politics; so he has taken to hypnotizing farmers, a la a Chicago grain commission house, whose orator made just one red-hot straight-from-the-buzz-wagon spiel, and then a Livingston County crowd put up \$8,000. And "our house" will get the shipments—as long as the \$8,000 lasts.

There must be a Jonah loose up in the Northwest, for a Fargo paper tells us that the Twin City Elevator Co. is playing in hard luck. Its Tagus house "busted," the one at Palermo had a "bum foundation" and the house at Ray was burned. The manager must have been bragging about his luck in getting an unexpected car and forgot to touch wood.

It is reported that an Indiana dealer, whose house burst and let out some 15,000 bushels of corn upon the ground, through the personal activity of his commission house in Chicago was enabled to get cars enough within twenty-four hours to move nearly the entire lot, and thus was saved from serious loss. Wonder how he would have fared if he had had the stuff all sold "3 or better?"

The Washington Post compares the pigmy Burton of Kansas, who sold his senatorial toga for \$2,500, to Daniel Webster, who is said by the Post to have been paid \$100,000 by Massachusetts business men to be senator. We never heard of this episode in Webster's career, but even so, it is different nowadays, when would-be senators pay many hundreds of thousands to blackleg politicians to become senators; nor does it appear, from the Post's account, that

among Webster's duties as senator was that of protecting a parcel of swindlers in the use of Uncle Sam's mails.

The Kansas Association employs an attorney who will prosecute claims for loss or damage to grain in transit, when accounts therefor, properly authenticated, are filed with the secretary at Topeka.

The Indiana Railroad Commission says dealers are afraid to report carriers' delinquencies to the Commission for fear of future annoyance. Is that the reason dealers in other states accept any old kind of a bill of lading offered them—even that old chestnut, the original "uniform," which the railway members of the joint committee solemnly promised to withdraw?

The President hit the nail squarely on the head when he said that "Elevator allowances should be stopped." Disguised in whatever way they may be, the allowances are nothing more nor less than rebates that enable the recipients, if they so will, to monopolize the business on the lines paying the allowance. It is enough that terminal houses built by the railways should be controlled by private individuals without giving the lessees another club to knock their competitors with.

Mr. Patten announced some days ago that he was "through with trading in corn," because, forsooth, when a squeeze was on the inspectors lowered the grading, and so forth. The trade will regret Mr. Patten's determination; but, of course, he won't expect the corn pit to be abolished or Peoria to quit making corn whisky or the Corn Products Company to stop making maple syrup—people will keep right on buying corn to be put to a good purpose, even if Mr. Patten is discouraged.

After much deliberation the Western freight officials have agreed that unless the Eastern freight officials agree to a joint through rate, they, the W. F. O., will stand by their full local rates to Chicago. As a result the rate from Omaha to Baltimore via Chicago will be 21½ cents per 100 pounds after January 15, while the rate from Omaha to New Orleans will be 18 cents. On this basis, one wonders how much grain either of them expects to get so long as the Gulf is in business and they maintain the rate.

Since the passage of the amendments to the Wisconsin grain inspection law peace has been restored about the elevators at Superior. The elevators are paying the inspection and weighing fees, and business is proceeding decently and in order. In the meantime the interests that oppose Wisconsin inspection are preparing their case to test the law in the only place where it may constitutionally be passed upon—in the courts. If this sensible course had been pursued from the first the contesting interests would have been entitled to more respect than is their lot at this moment, in the light of the lawless manner in which they attempted to defy the Wisconsin officials. This paper has

never been a friend to the principle of state inspection, or any form of meddling by the state in the private affairs of business men; but once a law is enacted to cover the case, it believes, with General Grant, that such law should be enforced until the people approve it wholly or get so sick of it they will themselves demand its repeal and obliteration.

Secretary Wells of Iowa asked his entire membership to express themselves on the proposed new grading rules at Chicago. As to the grades of yellow corn, 23 approved and 63 disapproved the proposed rules; on making grades for yellow oats, 55 approved and 31 disapproved. This is valuable as far as it goes, but the results of the inquiry only emphasize what was said in these columns a month ago, to wit, that the country dealer is singularly and unaccountably indifferent to the whole subject. Why is this so?

It is a wholesome sign that so many newspapers, both of rural and urban circulation, have united this year to condemn the free seed abuse. Channing, three-quarters of a century ago, dwelt in bitter invective upon the unsafety of public men as moral guides when their own pecuniary interests or political futures were involved. They are in no whit less unsafe to-day; and this free seed iniquity is but one manifestation of the fact. For, as conditions now are, the free distribution of seeds, plants, etc., in the manner it is now done, is nothing more nor less than petty bribery of voters, in which every member of Congress is particeps criminis.

Altogether too many elevators in the Northwest are bursting and settling after being stored to full capacity, as a result of cheap construction or negligence in making necessary repairs on old buildings. If elevator owners would have their plans prepared by and let out their contracts to responsible architects and construction companies they would have better and more substantial houses that could be loaded to full capacity without feeling fear of their collapsing and that would handle grain cheaply. The elevator engineers and construction companies make a specialty of this line of work, and know how to do their work well.

Noting that the Chicago Board of Trade clearings in 1905 were only 59 millions, against 105 millions in 1904, King & Co., Toledo, ask, "Why?" Well, we give it up. It indicates dull trade, of course, and yet the grain receipts for 1905 were about 30 millions in excess of those of 1904. Is speculation in grain becoming unfashionable? ask King & Co. Perhaps it is. So long as Wall Street has a pull on the public treasury for funds when desperately in need of them, why should not lithographs be more popular than grain, which has to take care of itself? As the car scarcity becomes more acute elevators have to carry stocks that ought to be moving and their demand for money on long time increases, with the natural result of high interest charges, which the grain has to pay, as does

the speculator also. Lithographs can be unloaded at any time, and though an occasional spurt of 125 per cent money is experienced, the banks always find it easier to favor the plunger in stocks than they do those who have their money tied up in something of universal, positive value like grain or provisions.

The dictum is often repeated that "the bucket-shop is doomed;" but it doesn't die. The Minneapolis chamber gets its injunction, but the firm it is aimed at goes on plastering the Northwest with scabs it calls branch "commission" houses and uses the quotations in defiance of the injunction; substantially the same thing occurs at Cincinnati when a "stock" shop goes on fighting for life and quotations from court to court, while the Kansas City nuisance is spreading its virus all through the South and Southwest. It is amazing that this sort of open and undisguised gambling house is permitted to continue an existence when Congress could put a stop to it all in ten days' time if it were disposed to clean the Augean stable.

The British parliamentary campaign is now on in dead earnest, and the fiscal question is being thrashed to a frazzle. Mr. Balfour, the late premier, in his election address of January 2 dismissed the issue in a vague and brief manner, saying simply that "the time has come to adapt England's fiscal policy to the changing conditions of a changing world," which, of course, is one of Ingalls' "glittering generalities" that are so familiar in political campaigns in America. Mr. Chamberlain, on the other hand, has plunged into the campaign with much more abandon than the former premier. He reiterates his well-known fiscal doctrines, but has difficulty in getting a hearing for them; the taxed loaf, be the tax ever so slight, is not popular in Great Britain.

Washington advices of the 10th inst. say that the House committee in charge of the new railroad rate bills has agreed to report to the House the Hepburn bill, with a few modifications which were agreed on and which relate chiefly to court procedure. These modifications were taken from the provisions of the Esch-Townsend bill and are in the nature of a compromise with the supporters of that measure. Representative Townsend, author of the Townsend bill, which was consolidated with the Esch bill and passed at the last session, it is announced, will make the opening speech in the House in favor of the Hepburn bill. No offers to amend the bill will be permitted, except on the first day of the debate, the 12th; but it is said the Democrats will be permitted to offer a substitute, on which they go on record. Congress has, of course, come to the inevitable conclusion that some railroad legislation will have to go on the statute book this winter, but the danger now is that instead of clinging to a simple proposition to strengthen the existing law, the entire basis on which the Commerce Commission rests will be overhauled, to be followed by endless legislation to test the new law at its every conceivable point

before the public may be able to reap any benefits it may confer.

The spring will soon be here and machinery men in general are advising grain men who want new outfits this year to place their orders early. The indications are for a large demand on the supply houses next spring, and to give fair treatment the manufacturer should not be too greatly rushed. Especially is this true of the larger machines, such as the large-sized grain driers, which require some two months to get running after the order has been placed. A little foresight by the house who wants a machine of this character will save money and worry for himself besides giving the builder time to erect the plant carefully with the view to its best operation.

Last Ohio crop report "hit the nail on the head," say Zahm & Co. in one of their daily letters, when it says that no attempt will be made hereafter to estimate wheat prospects during the months of December, January and February. "That is just what we say," add Zahm & Co. "It's simply out of the question to tell anything about growing wheat during these months, especially if it is covered with snow; so let's all abandon these midwinter reports and if any are issued pay no attention to them." This, in other words, is a curt and rational plea for the injection of a little common sense into crop reporting. It is to be hoped other states will follow Ohio's example.

Canadians reject, as all self-respecting men repudiate masked charity, the proposal of Mr. Louis Sinclair, M. P., that England should favor the Canadian wheat grower in the British market by paying his freight bills to England. "Canadian loyalty," Mr. Robert Meighen loftily declares, "requires no such bribe." Yet Mr. Meighen is a conspicuous "preference" man. But, bless us, he says, a duty that would keep other foreign wheat out of the United Kingdom so long as Canada would have wheat to sell free of duty is not "bribery"—certainly not. Why, it would actually cheapen the "British loaf," he says; just how is not quite clear, and, judging from Mr. Chamberlain's recent reception on the stump, one is afraid he'll have to "show" those Englishmen before Canada gets this preference and succeeds in upsetting British trade relations with the rest of the world.

A letter from Russia, received some days ago by Pringle, Fitch & Rankin, said excessive pressure is being brought to bear on the government to issue at once a ukase prohibiting the exportation of grain. This information was later confirmed by Dr. E. J. Dillon, the famous correspondent of the London Daily Telegraph, who wrote that as very little wheat was sown in Russia last fall a severe famine in the near future cannot be avoided, which famine is liable to continue for several years, or until the interior population resumes its normal habits. So it would seem, at least; but Russia is a law unto itself. If foreign balances for treasury uses could be obtained in no other way, Russia in the past

has exported grain, famine or no famine. Will it be different now that the peasant has in part recovered his natural rights?

Secretary Coburn of the Kansas State Board of Agriculture has sent out his annual card showing the agricultural products of 1905, worth \$288,819,000, to which must be added \$170,000,000 worth of live stock. No wonder the Kansas farmer is getting to be a money loaner, and that, as Mr. Coburn hints, he has cut out the "race suicide" misery of the "effete East" and is populating the state.

The electric interurban railroads in northwestern Ohio have introduced a new factor in the grain business that may well concern the country buyer. As a substitute for the farm wagon to deliver grain to the warehouses in towns during the period of bad teaming that each year more or less stops the business of delivering grain, the trolley is a welcome addition to the domestic economy of the farm and country town. But this is not all of it. If it is practicable to assemble the grain of one farm at the siding put in by the trolley line to haul it to the local elevator, there is no limit to the farms that may be so served. Nor, indeed, is there any limit to the distance the grain may be carried. It may even be diverted from the local station if the terminal of the trolley line be also a central market. The problem presented is obvious.

The following report by a member of the working force of the Chicago Board of Trade Weighing Department (indicative, by the way, of the thoroughness with which the work of that body is done) shows also how easily a loss of grain in transit may be hidden before the grain reaches the unloading scale. The employe says:

On November 23, while walking down the Chicago Junction Railroad tracks, I discovered a quantity of barley scattered along the tracks, which I followed until I came to Soo Line car 6430, which was leaking between the end sill and sheathings on account of the latter being loose. There were about two bushels of barley in one pile at the car.

I did not know where this car was to be unloaded, or whether or not our department would weigh it; but I stuffed some paper between the sill and sheathings to prevent further leakage. On November 24 I was sent to the Standard Brewery to weigh some cars and was much surprised to find among the lot the car in question; but there was no leakage apparent, the car having been repaired between the time of my examination on the 23d and its delivery to the brewery on the 24th. The loose sheathings were securely fastened and nailed and the car was in good order.

The report, we might add, gives additional force to the suggestion made elsewhere that too much care cannot be taken by shippers in weighing their grain into cars and in providing competent witnesses to sustain, if necessary, a claim of loss in case of shortage at the outturn of the car. It further sustains the point made that the carriers recognize their responsibility for loss in transit, for it is a fair presumption that the carrier repaired this particular car, as it does others, in order to prevent further loss (and perhaps, though not necessarily, for the carriers' agents are not to be classed as dishonest men, to conceal loss), else why their concern in the matter at all?

TRADE NOTES

The Jeffrey Manufacturing Co., Columbus, Ohio, is sending out an attractive calendar for 1906. It is a hanger, 14x11 inches, and illustrates some of the company's famous mining machinery.

The Inter-State Contractors is the style of a new company organized at Mason City, Iowa, to build elevators and mills. Frank B. Bushnell, formerly with the Younglove & Boggess Co., is the active manager of the new concern.

Lovers of pastoral scenes will appreciate the 1906 calendar of the Union Iron Works Co., Decatur, Ill., the feature of which is a reproduction in color of Marais' painting, "A Summer Day, Holland." The calendar is a large one, 19x27 inches, and the reproduced painting is 9x13 inches in size.

The Standard Scale & Supply Co. of Chicago, branch of the Pittsburg house, on January 1 moved from the old location on Market Street to larger quarters at 20-22 South Clinton Street. The new location is in the machinery district and they will have ample room for scale display and for the general offices. Edward Reiter continues as manager.

The Howe Scale Co. of Illinois has succeeded Borden & Selleck Company of Chicago, Ill. This old established business, which has been so long and favorably known to the grain trade, undergoes a nominal change only and headquarters will continue to be at 48 Lake Street, from which all their scales and grain specialties, including the Howe Gas and Gasoline Engine, will be shipped to the trade as formerly.

The Millers' Mutual Fire Insurance Company of Lansing, Mich., have remembered their friends in the trade with a handsome and serviceable souvenir in the form of a leather-bound pocket memorandum book. The book is made to fit the vest pocket and the back is arranged to hold a pencil, which accompanies the book. In addition to the blank pages for memoranda there are a number of printed pages giving valuable information as to interest, weights and measures, etc. Not the least interesting is a brief statement of the business and policy of the Michigan Millers' Mutual Fire Insurance Co.

The Stuhr Grain Purifier Constructing Co. of Davenport, Iowa, has been organized to construct and sell the right to operate the grain purifying process tower, fully covered by patent 592,691. They claim the right to use the only process tower on the market and that all other processes of this character are infringements. The head office is at Davenport, Iowa, and is under the management of D. H. Stuhr. R. G. Stuhr, the superintendent of construction, has office in the Traders Building, Chicago. Mr. Stuhr has had years of practical experience in operating grain elevators and grain purifying plants and the new firm has the necessary resources and equipment to make large or small installations of the process as desired.

The M. Mitskun Co. of Detroit, Mich., has placed on the market the Giant Car Mover and is calling the attention of the grain trade to it by an advertisement elsewhere in this paper. Elevator owners do not need to be reminded that a car mover is a necessity around every well-equipped elevator. The Giant Car Mover is so constructed that it can be handled easily by one man. The sliding wedge blocks the car and holds what the lever gains. The device is sold by the manufacturer to the user at a uniform price of \$3, with a guarantee that any malleable part broken within six months from date of invoice will be replaced free. Over 11,000 Giant Car Movers were shipped in 1905, and the company has thousands of unsolicited testimonials certifying to the worth of the device. The company has a monthly publication, "The Railway Equipper," which describes

the car mover and other specialties. It is sent free on request.

MICHIGAN BEAN JOBBERS.

The annual meeting of the Michigan Bean Jobbers' Association will be held at Detroit on January 25. The following is the program of the meeting:

Meeting called to order at 1:30 p. m. by the president, J. A. Neath of Lenox.

General order of business.

President's address.

Address by Prof. Clinton D. Smith of Michigan Agricultural College.

Address by M. G. Ewer of Detroit relative to car service and average time agreement.

Report of transportation committee, A. E. Lawrence, chairman.

Report of arbitration committee, E. W. Burkhart, chairman.

Report of resolution committee, W. J. Orr, chairman.

TOPICS FOR DISCUSSION.

1. "Carrying Consigned Stocks—Is It Profitable to the Michigan Shipper?" Opened by R. E. Ward of McLaughlin, Ward & Co., Jackson; discussion by H. J. Hankins of Hankins Bros., Elsie.

2. "Is a Member of This Association Justified in Going into the Legitimate Territory of Another Member Who Has Money Invested in an Elevator Plant, and Buying Beans Direct from Farmers and Shipping Them Out in Bag Lots?" Opened by M. H. Vaughan of Caro; discussion by Henry Carr of Saginaw Milling Co., Saginaw.

3. "Definition of Immediate, Quick and Prompt Shipments." Opened by B. H. Winchester of Stockbridge Elevator Company, Jackson; discussion by F. G. Rounsville of Fowlerville.

4. "Bags—Is It Advisable to Use Cheaper Bags, and Should Dealers Put up Beans in Uniform Weights?" Opened by Burdick Potter of Burdick Potter & Son, Fenton; discussion by K. R. Smith of Ionia.

5. "The Detroit Price on Beans and Its Effect on Michigan Dealers." Opened by G. W. Young of Hathaway & Young, Pewamo; discussion by F. M. Sheffield of Ferrin Bros. Co., Detroit.

6. "The Association—Its Work and the Place It Should Occupy." Opened by W. R. Botsford of H. E. Botsford & Co., Detroit; discussion by C. E. De Puy of C. E. De Puy Co., Pontiac.

7. "Irregularities in Buying and Selling." Opened by C. H. Barrett of S. M. Isbell & Co., Jackson; discussion by J. N. Weaver of Weaver & Watkins, Milford.

8. "Bean Speculation—Its Danger to Our Members." Opened by E. L. Wellman of Valley City Milling Co., Grand Rapids; discussion by F. M. Towner of F. M. Towner Co., Morrice.

9. "What Class of Dealers Should Be Reported as Undesirable to Members to Association?" Opened by J. P. Wood of J. P. Wood Bean Co., Chelsea; discussion by F. E. Kelsey of Caro Elevator Co., Caro.

POPE-ECKHARDT-ISMS.

Among the many clever and pointed truths that have introduced the daily reflections on the market that constitute the daily circular to its patrons of the Pope & Eckhardt Company of Chicago, we select the following:

No other market could receive, as Chicago did to-day, 988 cars of corn and 529 cars oats, besides other grain, and absorb it all in midwinter without any decline in price.—January 2.

Because of an obdurate Senate that kills all attempts at reciprocal treaties with other countries, the United States loses a valuable customer in Brazil for flour and other products. Argentina gets the business that we lose.—January 4.

It is simply amazing how the New York crowd bulls chromos at extremely high prices under exorbitant rates for money. They delight in punishing any outsider who attempts to depress values. Here it is very different in the grain trade, as 85 per cent of the dealers, about 95 per cent of the time, are engaged in hammering the market, and regard

any outsider who tries to lift prices as their common enemy.—December 29.

The agricultural gentlemen at Washington add nine more millions to the wheat crop. It is well that this is a final report for 1905, or no one could calculate what the ultimate results by way of additions might be. We should have more respect for these reports had not the worthlessness of the Census Department's acreage basis been so thoroughly exposed by the investigation of Messrs. Brown of New York, Murray of Cincinnati and Howard of Chicago in 1902, when it was found that in 101 counties, out of 1,400 considered, more land was figured as under tillage than the counties by utmost measurement contained, including sites, roads of every kind, etc. The atmosphere of Washington is not always conducive to the fairest services, as recent exposures of rottenness in the Agricultural Department have shown. Mitchell and Burton have fallen from the august Senate, while in 1889, before the "atmosphere" had affected him, Depew wrote a magazine article on "Why It Pays to Be Honest." Low prices for grain and cotton and high prices for securities must please Washington.—December 21.

R. G. RISSEY DEAD.

R. G. Risser, one of the best known interior grain dealers in northern Illinois, died at his home in Kankakee, on the evening of January 4, of pneumonia, after an illness of about two weeks, and after apparently the crisis of the disease had been successfully passed.

Mr. Risser was a native of Ohio, having been born near Cleveland in July, 1846. The family removed to Illinois in 1862, settling at Onarga, where he was associated with his father in a general store for some sixteen years, during the last five of which he was a partner. On withdrawing from the partnership he went into grain and general merchandise (1878) at Sheldon, from which place he removed (1885) to Kankakee, where he bought grain on a large scale and dealt in agricultural implements up to the time of his death. He must have accumulated a substantial fortune.

Mr. Risser in 1878 married Miss Eva Dunlap, daughter of M. L. Dunlap of Champaign County, who was the mother of his five children, and three of whom, with their mother, survive him. He leaves two brothers also, Charles Risser of Kankakee and Lewis Risser of Onarga.

Mr. Risser was a typical business man of the old school, who made the name of the American merchant and business man synonymous with honor, thrift and integrity, coupled with energy and forceful activity; and to these he added strong religious convictions and a genial, humane nature. He was concerned, in one way or another, with pretty much everything sound in business enterprise and wholesome and elevating in a social way in the several towns in which he lived; and dying, leaves a memory redolent of gracious ways and kindly deeds.

WISCONSIN GRAIN LAW AMENDED.

The Wisconsin legislature has amended the grain inspection law of that state, giving the Commission some new powers, as well as relieving it of the necessity of being self-supporting, the state treasury now paying salaries and absorbing the earnings. The amended law makes it practically impossible to do business in the Superior elevators without recognizing and employing the Wisconsin inspection and weighing system.

A venerable elevator at Walhalla, N. D., gave up the ghost on December 15, dumping 12,000 bushels of grain in the dirt.

At a farmers' institute held at Meredith, N. H., on January 2, Prof. F. W. Taylor of Durham, N. H., addressed the gathering on "Corn Growing." Professor Taylor said much more corn might profitably be raised in New Hampshire, as that state produces more corn to the acre than any other part of the country. Notwithstanding which, there is 50 per cent less corn grown there now than there was fifty years ago.

RECEIPTS AND SHIPMENTS.

Following are the receipts and shipments of grain, etc., at leading receiving and shipping points in the United States for the month of December, 1905:

BALTIMORE—Reported by H. A. Wroth, secretary of the Chamber of Commerce.

Articles.	Receipts.		Shipments.	
	1905.	1904.	1905.	1904.
Wheat, bushels.	298,424	103,695	233,398	.....
Corn, bushels.	5,715,320	2,422,622	4,937,124	1,469,161
Oats, bushels.	389,399	119,357	1,260,445	145
Barley, bushels.	14,675	5,177	.....	.....
Rye, bushels.	126,578	76,959	.....	8,647
Timothy Seed, lbs.	5,868	6,650	284	8,647
Clover Seed, lbs.	5,533	7,601	559	12,457
Hay, tons.	6,141	4,747	1,988	4,915
Flour, bbls.	259,889	153,135	164,340	70,433

BOSTON—Reported by Daniel D. Morris, acting secretary of the Chamber of Commerce.

Articles.	Receipts.		Shipments.	
	1905.	1904.	1905.	1904.
Flour, bbls.	199,668	130,526	85,308	43,903
Wheat, bushels.	2,383,192	567,283	1,224,827	377,735
Corn, bushels.	631,229	1,548,682	485,194	549,803
Oats, bushels.	373,591	412,553	80,100	22,280
Rye, bushels.	4,470	2,750	.....	.....
Barley, bushels.	583,620	153,670	183,810	140,927
Mill Feed, tons.	2,499	2,433	325	265
Cormeal, bbls.	6,384	3,460	4,181	2,200
Oatmeal, bbls.	18,107	7,939	7,275	3,45
Oatmeal, sacks.	8,573	657	11,756	985
Hay, tons.	16,200	16,250	930	240

CHICAGO—Reported by Geo. F. Stone, secretary of the Board of Trade.

Articles.	Receipts.		Shipments.	
	1905.	1904.	1905.	1904.
Wheat, bushels.	1,138,222	2,167,548	1,281,02	1,433,186
Corn, bushels.	10,578,402	16,757,600	5,358,636	7,670,329
Oats, bushels.	8,208,228	3,486,055	7,284,719	3,456,484
Barley, bushels.	3,000,339	2,983,441	1,399,983	533,329
Rye, bushels.	239,200	149,173	82,234	101,625
Timothy Seed, lbs.	1,223,335	5,168,798	792,760	733,596
Clover Seed, lbs.	174,003	298,510	125,812	176,969
Other Grass Seed, lbs.	987,220	963,000	2,773,235	800,572
Flax Seed, bushels.	305,504	352,750	2,986	9,974
Broom Corn, lbs.	1,398,597	2,684,740	1,197,971	991,019
Hay, tons.	23,769	25,490	1,239	578
Flour, bbls.	684,192	712,602	667,274	622,729

CINCINNATI—Reported by C. B. Murray, superintendent of the Chamber of Commerce.

Articles.	Receipts.		Shipments.	
	1905.	1904.	1905.	1904.
Wheat, bushels.	181,268	94,934	189,112	81,280
Corn, bushels.	1,151,339	1,187,098	637,950	425,830
Oats, bushels.	837,526	324,014	648,210	94,173
Barley, bushels.	366,050	152,000	126,098	32
Rye, bushels.	62,719	43,198	35,254	22,050
Timothy Seed, bags.	330	1,961	282	1,655
Clover Seed, bags.	2,169	1,186	861	511
Other Grass Seed, bags.	11,125	13,971	10,134	12,637
Hay, tons.	19,173	10,408	11,380	4,167
Flour, bbls.	160,120	158,533	107,107	116,969

CLEVELAND—Reported by M. A. Havens, secretary of the Chamber of Commerce.

Articles.	Receipts.		Shipments.	
	1905.	1904.	1905.	1904.
Wheat, bushels.	51,628	45,809	53,080	13,046
Corn, bushels.	1,271,038	2,272,141	690,895	989,033
Oats, bushels.	370,415	441,833	193,132	259,769
Barley, bushels.	10,060	10,935	.....	822
Rye, bushels.	5,288	4,862	922	3,385
Flour, tons.	5,437	5,486	1,718	2,409

DETROIT—Reported by F. W. Waring, secretary of the Board of Trade.

Articles.	Receipts.		Shipments.	
	1905.	1904.	1905.	1904.
Wheat, bushels.	277,119	326,881	8,848	.....
Corn, bushels.	1,084,076	995,791	311,702	156,496
Oats, bushels.	415,130	360,830	74,454	116,165
Barley, bushels.	430,877	261,572	8,910	19,236
Rye, bushels.	63,434	8,077	70,677	15,319
Flour, bbls.	34,200	20,500	18,600	13,100

DULUTH—Reported by H. B. Moore, secretary of the Board of Trade.

Articles.	Receipts.		Shipments.	
	1905.	1904.	1905.	1904.
Wheat, bushels.	3,791,570	3,162,333	6,105,976	2,821,913
Corn, bushels.	1,358	.....	.....	.....
Oats, bushels.	959,262	1,001,585	955,493	397,699
Barley, bushels.	1,048,783	640,914	1,639,932	1,291,144
Rye, bushels.	80,132	100,848	124,869	123,235
Flax Seed, bushels.	2,064,350	2,431,354	3,467,594	2,515,045
Flour, bbls.	347,580	197,125	487,695	324,500

GALVESTON—Reported by C. McD. Robinson, chief inspector of the Cotton Exchange and Board of Trade.

Articles.	Receipts.		Shipments.	
	1905.	1904.	1905.	1904.
Wheat, bushels.	547,540	.....	.....	.....
Corn, bushels.	3,488,115	.....	338,571	.....
Barley, bushels.	80,000	.....	.....	.....

KANSAS CITY—Reported by E. D. Bigelow, secretary of the Board of Trade.

ELEVATOR AND GRAIN NEWS

ILLINOIS.

C. Casheux of West Point, Ill., has sold out his grain business.

Jones Bros.' elevator at Tinley Park, Ill., will be completed on March 1.

F. L. Hough has installed a new engine in the grain elevator in Alpha, Ill.

I. R. Cravy has taken over the elevators at Ferris, Ill., and at McCall, Ill.

G. H. Spannagel of Witt, Ill., has sold his elevator to John M. Roberts & Son.

J. W. Hudson has taken over the grain business of John F. Butzer at Hillsdale, Ill.

McManus & Gelling, grain merchants, Monica, Ill., are reported to have sold out.

A. W. Heinz is reported to contemplate returning to the grain business in Mahomet, Ill.

Subscriptions are being raised in Manlius, Ill., for the purpose of erecting a farmers' elevator.

Samuelson & Westerlund have succeeded Samuelson & Anderson, grain merchants, at Oscia, Ill.

The Campus Grain Co. is looking for a site in Cardiff, Ill., for the purpose of erecting an elevator.

The Knight Grain Co. of Monticello, Ill., has purchased the bankrupt stock of Davison & Co., late of Monticello.

McFadden & Co. of Havana, Ill., have purchased the flour mill of James Fletcher and will convert it into an elevator.

The farmers of Hudson, Ill., are circulating a petition for the purpose of raising funds to build a farmers' elevator in Hudson.

A new elevator is in process of erection at Thomasboro, Ill., under the direction of the Farmers' Elevator Co. of that place.

The farmers of Rowe, Ill., and vicinity have organized the Rowe Farmers' Grain Elevator Co. The new company is capitalized at \$50,000.

The Fairland Grain and Lumber Company, Fairland, Ill., has been incorporated with a capital of \$4,500 to deal in grain, lumber and implements.

The Paloma Elevator Co., Paloma, Ill., has been incorporated with a capital of \$2,500. The company will do a grain commission and storage business.

The Cooksville Grain Co., of Cooksville, Ill., has been incorporated with a capital of \$10,000. The incorporators are John Hopt, N. L. Elbert and C. E. Wonderlin.

The St. Joseph Grain Co. of St. Joseph, Ill., has been incorporated with a capital of \$7,000. The incorporators are Charles A. Peabody, Walter S. Roe and Matison F. Dunn.

F. D. Voris of Neoga, Ill., president of the National Hay Association, has sold out his grain and hay interests in Neoga to J. T. Sumerly, Elmer Garrison and Lewis Clark.

The Frankfort Elevator Co. of Frankfort, Ill., has been incorporated with a capital stock of \$50,000. The incorporators are Howard S. Barker, Wilfred W. Barker and Thomas Manley.

The Cleveland Grain Co. is building an addition to its elevator at Cleveland, Ill., in the shape of eight large bins, which will hold approximately 350,000 bushels of grain. The eight bins are fire and water proof and are constructed entirely of cement and steel.

The Chicago & Northwestern Railway Co. has bought the Galena Elevator on North Water street, Chicago, from John S. Goodwin, trustee for the bondholders, for \$398,000 cash. This is one of the Chicago Railway Terminal Elevator Company's elevators. It was built in 1872 and has a capacity of 700,000 bushels. It includes a land area of 100x390 feet.

WESTERN.

Cecil Knight has succeeded to the grain business of W. T. Kinery at Pueblo, Colo.

The Washington Grain & Feed Co. has succeeded the firm of Wm. Birmingham & Co. at Tacoma, Wash.

The Eastern Washington Grain & Fuel Co. has been incorporated at Spokane, Wash., with a capitalization of 250 shares having a par value of \$100 per share. The company proposes to erect a warehouse at a cost of \$15,000. While some

wheat will be handled, it is expected that feed and fuel will be the principal commodities dealt with.

The W. O. Kay Co. has been incorporated at Ogden, Utah, to do a grain business. The capital stock is \$50,000.

The Farmers' Elevator Co. of Marysville, Idaho, is building a new elevator in the immediate vicinity of Marysville.

Seattle, Wash., has been selected as the Puget Sound terminal by the Farmers' Grain & Supply Co. and a large elevator will be erected there this spring.

The Beebe Grain Co., Butte, Mont., has secured the agency for the Gallatin Valley Milling Co. of Belgrade and does a large wholesale and retail hay and grain business.

The grain, hay and feed business of John Cnopius & Son, Santa Rosa, Cal., has been taken over by Garret Nelligan. The business will be conducted under the name of Nelligan & Sons.

A Mr. Stanton of Bozeman, Mont., has announced that he will erect an elevator in Livingston, Mont., before next summer. The new building will have a capacity of 75,000 bushels and will cost about \$15,000.

OHIO, INDIANA AND MICHIGAN.

A farmers' elevator is to be built at Cardiff, Ohio, in the spring.

The new elevator at Geneva, Ind., will shortly be completed.

The Farmers' Elevator Co. at Quincy, Mich., has completed its elevator.

The Burch-Wyman Grain Co., Clare, Mich., has been incorporated with a capital of \$10,000.

Hall, Garton & Co. have taken over the grain business of W. A. White & Co., Tocsin, Ind.

Frank McClanness has purchased the grain elevator of John Crowder at New Castle, Ind.

Frank Hagenbock of Dayton, Ohio, has bought the grain elevator at Sulphur Springs, Ind., from John Crouder.

The farmers of Yeoman, Ind., are endeavoring to raise subscriptions to build an independent elevator at that place.

The Ray Stephenson Co. has been incorporated at Rockport, Ind., to do a general elevator and flouring mill business. Capital stock, \$9,000.

Tingley Bros., grain merchants of Columbus, Ohio, who recently assigned, are reported to have filed an involuntary petition in bankruptcy.

The Central Grain Elevator Co. of Cleveland, Ohio, has executed a mortgage for \$200,000 in favor of the Guardian Savings & Trust Co. of Cleveland.

The Standard Grain Co., Cincinnati, Ohio, has increased its capital from \$10,000 to \$25,000 and changed its name to the Standard Manufacturing & Distributing Co.

Albert H. King has disposed of half his interest in the Crawfordsville Coal and Grain Co., Crawfordsville, Ind., to Harry Stout. Mr. Stout will have entire charge of the Big Four elevators.

The safe at Anderson & Shaffer's elevator in Hamilton, Ohio, was the object of a burglarious attempt by a gang of cracksmen last month. The safe was slightly damaged, but its contents were preserved intact.

The Toledo Elevator Co. and the Miami Maize Co., both of which concerns are officered and owned by the same people, held their annual stockholders' meeting at Toledo, Ohio, on January 9. The outgoing officers were re-elected and a dividend of 6 per cent declared.

Secretary Ewen, of the Michigan Farm Produce Shippers' Association, reports the following recent changes in firms in Michigan: John H. Layer succeeds Stone & Layer at Alto; H. M. Eddy & Sons succeed H. M. Eddy, shippers, at Horton; Conklin & Wallace succeed S. W. Skeels, elevator, at Conklin; Convis & Son succeed M. A. Crane, millers and shippers, at Henderson; Fillinger & Gordon succeed Detwiller & Son of Owosso, at Oakley; Rowlader Bros. & Reisser succeed C. E. Rowlader, elevator, at Woodland; Yerkes Bros. succeed C. Mowry & Son at Wixom, headquarters at Millford; Bottomley & Dryer succeed Allen Brown in the grain, hay and bean business at Berville; Millet Elevator Co. succeeds M. H. Bird at Millet (E. M. Babbitt is interested); Geo. F. Gross succeeds Gross-Wager Co. at Waterford (he also operates the Waterford Flour Mill); Hamlin Bros. and Hart Bros. have been succeeded by the Lapeer Grain Co. of Lapeer, at Lennon; Utica Milling Co. succeeds Crissman & Son, at Utica; St. John & Church succeed J. H. St. John & Co.; J. Lambert succeeds St. Clare County Hay Co., at Smith's Creek; Lewis & Munger succeed Lewis & Bullock, millers, at Freeland; Styles Bros., millers, have bought the grain business of W. S. Walls, who has engaged in the same business at Clarkston; S. I.

Stump is succeeded by the Armada Elevator Co. at Armada; Satterlee & Buttraw, millers, succeed McClellan & Satterlee, proprietors of the Birmingham Mills, at Birmingham; Hart Power & Milling Co. succeeds Hart Bros., millers and shippers, at Flushing; W. H. Marsh has discontinued the grain business at Gregory; the M. C. R. R. have closed their elevator at Burlington; Judson Bros. of Gaines have completed a large grain and bean elevator and hay house at Durand.

IOWA.

The Practical Milling Co. has completed a large new warehouse at Shenandoah, Iowa.

W. H. McGargill has taken over the grain business of Jno. Gilmore at Imogene, Iowa.

Over \$5,000 has been subscribed towards forming an elevator company at Marshalltown, Iowa.

The New Farmers' Co-operative Co. of Berkeley, Iowa, has purchased the Peavey Elevator at that place.

McMahon Bros. have disposed of their implement business at Struble, Iowa, to the Thorpe Elevator Co.

The Barnum Elevator, Barnum, Iowa, a farmers' house, was completed last month. Fred Wellington is in charge.

A new elevator is being built at North Liberty, Iowa, on the line of the Cedar Rapids-Iowa City Electric Railway.

The Great Western Cereal Co. at Fort Dodge, Iowa, is making plans to build a much larger elevator than the one at present in use.

A. Sauers of Le Mars, Iowa, will remodel and almost rebuild his elevators, making them modern in every particular and much larger.

A movement is on foot at Clear Lake, Iowa, to form a farmers' co-operative society. It is proposed to organize if 100 members can be secured and \$2,500 in stock is subscribed.

Over \$5,000 has been subscribed towards forming the Farmers' Co-operative Elevator Co. at Kanawha, Iowa. It is proposed to purchase one of the elevators already built if a price can be agreed upon. If not, a new one will be erected.

The big Trans-Mississippi Elevator in course of erection at Council Bluffs, Iowa, will shortly be completed. The machinery will be of the most improved electrical type and the building in every respect be one of the most complete and modern in the state.

The Union Elevator Co., which owned the structure destroyed by fire at Council Bluffs last month, has been dissolved. The company was incorporated for \$200,000, and this amount was invested in the property destroyed. The insurance amounted to \$50,000.

SOUTHERN AND SOUTHWESTERN.

Choctaw, Okla., is to have a \$25,000 elevator soon.

Checotah, Okla., is to have a \$25,000 grain elevator.

O. P. Jackson & Co. of Houston, Texas, have been incorporated.

The grain business of Alford & Foster, Camden, Ala., has been sold out.

Moses Bros. are about to erect a 50,000-bushel grain elevator at Lexington, Texas.

E. M. Dillard has sold his interest in the Southern Grain & Produce Co. of Hope, Ark.

The C. E. Smith Grain Co. of Little Rock, Ark., has been incorporated with a capital of \$5,000.

The Pecos Grain and Elevator Co. of Rockwall, Texas, has been incorporated with a capital of \$10,000.

The Gillette-Hardison Grain Co., Davidson County, Tenn., has been incorporated with a capital of \$15,000.

The People's Grain and Elevator Co. of Rockwall, Texas, has been incorporated with a capital of \$10,000.

The Kentucky Public Elevator Co. has accepted plans for building a \$100,000 addition to its elevator at Louisville, Ky., giving a total capacity of 1,000,000 bushels.

The Kentucky Public Elevator Co. is erecting an addition to its elevator at Louisville, Ky., at a cost of \$100,000. When the improvements are completed, the capacity of the plant will be 1,000,000 bushels.

The Miller Grain Co. has completed its new elevator at Anadarko, Okla. The elevator has a capacity of 25,000 bushels and can handle 5,000 bushels per day of ten hours. It is equipped with a 14-horsepower Olds Gas Engine, a Western Sheller

with a capacity of 5,000 bushels per hour, and other improved machinery.

Smith Bros. Grain Co. has purchased a site at Ft. Worth, Texas, on which will be erected either an elevator or a warehouse.

E. F. Spears & Sons of Paris, Ky., have placed contract with Macdonald Engineering Co., Chicago, for a reinforced concrete grain elevator. It will have a capacity of 75,000 bushels and will be completed about April 1.

It is reported that the Illinois Central will erect a 1,000,000-bushel elevator at Nashville, Tenn. The Southern is also said to be contemplating the erection of an elevator to handle the grain business on their system at that point.

A new enterprise has been started at Gallatin, Tenn., in the shape of the Payne Elevator & Warehouse Co., under the proprietorship of L. P. Payne and W. Witherspoon. The new firm has already a 75,000-bushel elevator and is preparing to erect two warehouses, one for hay and one for seed, as well as other buildings.

At Nashville, Tenn., Tyner & Doss succeed the wholesale and retail grain firm of John A. Tyner & Co. Mr. Tyner of the new firm was senior partner of the old firm. J. W. Doss has been engaged in the transfer business at Nashville for a number of years. The new firm gives up the retail trade but continues the wholesale business, and will make a specialty of supplying southeastern mills with white corn.

MISSOURI, KANSAS AND NEBRASKA.

An elevator is being built at Winslow, Neb.

The new elevator at Pohoco, Neb., has been opened.

The new elevator at Woodcliffe, Neb., has been started.

The farmers of Diller, Neb., have organized a co-operative grain company.

The American Society of Equity has organized a local order at Hastings, Neb.

Frazier & Conrad have succeeded J. D. Infield, grain merchant, at Bern, Kan.

The new elevator at Conway, Kan., has been completed and is ready for business.

Temple & Rankin have taken over the grain business of W. T. Temple in Bentley, Kan.

The Avoca Elevator Co., Lincoln, Neb., has been incorporated with a capital of \$15,000.

The farmers of Clay County, Kan., are considering the erection of an elevator at Clay Center.

Wm. Stokes, Omaha, Neb., is said to contemplate discontinuing his grain business in that city.

The W. P. Devereaux Elevator Co. of Minnesota is erecting an elevator at Uehling, Neb.

The Blumer Elevator at Chalco, Neb., has been sold to Wm. Von Dohren of Millard, for \$5,000.

The Firth Grain & Lumber Co., Lincoln, Neb., has been incorporated with a capital of \$15,000.

The Updike Grain Co. of Omaha, Neb., has increased its capital from \$300,000 to \$1,000,000.

Martin Bros. have purchased a site for their new elevator and feed mill in Dodge City, Kan.

The Shellabarger Elevator & Mill Co. of Salina, Kan., has opened its new elevator at Bataan, Kan.

The erection of the new Foster-Cochrane Elevator in Lincoln, Neb., is being rapidly proceeded with.

The Wolf & Eddy Grain Company of Kansas City, Mo., has been incorporated with a capital of \$3,000.

C. A. McCloud of York, Neb., has disposed of his elevator and has sold his grain business to Nelson Bros. of that city.

Three elevators are in course of erection in Homer, Neb.—Ashland Bros., McCaul-Webster and the Blenkirion Grain Co.

The Peavey Co. is putting up a building between its elevator and office at Winslow, Neb., to be used for a flour and feed store.

A site has been selected and plans drawn for the Nye-Schneider-Fowler Elevator, to be erected in Omaha. It will have a capacity of 1,000,000 bushels.

The Anchor Elevator, Randolph, Neb., has completed a number of improvements, among which is the enlargement of the dump bin from 200 to 400 bushels.

The farmers in the vicinity of Marietta, Kan., are building an elevator for the third time. Twice previously their building was destroyed by fire. The new elevator will be built of cement.

The Barnett & Record Co. of Minneapolis has commenced the work of rebuilding the burned Burlington Elevator at Harlem, a suburb of Kansas City, Mo. A number of storage tanks will be built and the working house will have room for 450,000

bushels, giving the house the largest handling capacity of any elevator in Kansas City.

Paul Van Ackeren and H. J. Kinch, the former local manager for the Crowell Elevator Co. at Lindsay, Neb., and the latter for the Trans-Mississippi Co., at the same place, have resigned and will enter into partnership to buy grain independently.

EASTERN.

S. B. Jackson is building a large elevator at Carlisle, Pa.

A. H. Reynolds of Essex, Conn., will shortly erect an elevator in that city.

Chas. Abbey has bought the grain and feed business of Arthur Jordan at Bingham, Me.

The Seneca Elevator Co., Seneca, Md., will rebuild its elevator which was recently burned.

The M. C. R. R. is laying a spur track to the grain store of J. H. True, Cumberland Center, Me.

A. C. Stanton, formerly of Boston, has purchased the grain business of Nathan M. Johnson at Coos, N. H.

The Maryland Cereal Co. has been incorporated at Cumberland, Md., with \$10,000 capital stock, to deal in grain, etc.

Mr. Mead of Akron has purchased the interest of Mr. Lumley in the firm of Potter, Lumley & Briggs, at Basom, N. Y.

Charles Hieber is building a grain storage building in Philadelphia, Pa. The building will be 73x57 feet and will cost \$21,000.

F. H. E. Bragg has sold his interest in the grain business at Fairland, Me., to his partner, C. H. Crummett, who will conduct the business in future.

The Pennsylvania Railroad is building a grain drier at Baltimore, Md., in connection with its Canton Elevator. The drier will have a capacity of 15,000 bushels.

Work is progressing on the elevator which is being built for the Phillips-Thompson Co. in Wilmington, Del., and it is expected the building will be completed by March.

An extra shift of hands is working day and night at the Baltimore & Ohio elevators, A and B, at Baltimore, Md., in order to handle the large amount of grain coming in and going out.

The Baltimore & Ohio Railway are to be asked by the Chamber of Commerce, Baltimore, Md., to rebuild the elevator which was burned down seven years ago in Baltimore and never rebuilt. Grain men believe that the grain business from Baltimore has reached such proportions that another elevator is absolutely necessary.

The Pennsylvania Railroad has decided to open a third elevator in Philadelphia in consequence of the great increase in grain exports from that city. The elevator about to be used is the Girard Point Elevator A, which has been closed for several years. It has a capacity of 800,000 bushels. The Girard Point Elevator B, 1,250,000 bushels, was reopened on October 23, after several months' idleness. The big 1,500,000-bushel elevator of the Philadelphia & Reading Railway is working to its limit. With the reopening of the old Girard Point Elevator the entire elevator service of Philadelphia will be actively employed for the first time in the city's history.

THE DAKOTAS.

An elevator has been started at Garrison, N. D. A farmers' elevator is to be built at Martin, N. D.

Martin Lee has built a 30,000-bushel elevator at Aneta, N. D.

The new M. & N. Elevator at Lakota, N. D., has been completed.

Thompson & Co. will erect a 30,000-bushel elevator at Wilton, N. D.

Commissioner A. M. Grant is building an elevator at Hurd, N. D.

Frank Lynch will erect an elevator at Pickert Siding, near Finley, N. D.

D. B. Gurney will return to the grain and seed business at Yankton, S. D.

Andrews & Gage have closed their elevator at Guppie, N. D., for the season.

The farmers around Pingree, N. D., are organizing a farmers' elevator company.

The Osborne-McClelland Co. will build a 20,000-bushel elevator at Anamosa, N. D.

A. A. Gray has bought the machinery and grain business of A. Roberts at Buchanan, N. D.

The Farmers' Elevator Co. of Overly, N. D., has been incorporated, with a capital of \$6,000.

The Dakota Elevator Co. at Wagner, S. D., has been incorporated, with a capital of \$60,000.

The Hawkeye Elevator Co., Sioux Falls, S. D., has established a new coal and wood yard and

grain buying station in that city, which will be managed by J. A. Ward.

The Curlew Elevator & Lumber Co. of Glenn Ullin, N. D., has filed papers of incorporation.

The St. Anthony & Dakota Elevator at Claremont, S. D., has been closed for lack of patronage.

G. O. Helvig of Dawson, Minn., is building an elevator with a capacity of 30,000 bushels at Milbank, S. D.

The Grain Producers' Elevator Co. of Grand Forks, N. D., will build a 40,000-bushel elevator at Bartlett, N. D.

C. W. Thompson of Parker, S. D., has purchased the elevator of the Monroe Grain & Coal Co. of that place.

The annex to the Harbin Elevator, Lakota, N. D., has been completed. It has a capacity of about 20,000 bushels.

Adams & Skinner have opened an elevator in Castlewood, S. D. They will handle all kinds of grain, flour, feed and fuel.

D. L. Lytle of Tolley, N. D., has sold his elevators on the G. N. Ry. and will build at Tolley, Hurd and Eckman, N. D., on the Soo Line.

The Atlantic Elevator has commenced operations at Egeland, N. D., making the third in that town. Olmstead, N. D., has two, with a third about to be built.

Four of the elevator companies at Flaxton, N. D., are building large additions to their elevators with an aggregate additional capacity of 45,000 bushels.

A meeting of the Farmers' Elevator Co. of North Dakota will be held at Fargo on January 18, to consider the erection of more farmers' elevators through the state.

Increased business has induced the Grain Producers' Elevator Co. of Lakota, N. D., to build a large annex to its elevator, thereby increasing its capacity 20,000 bushels.

MINNESOTA AND WISCONSIN.

Albert Lang will build an elevator and feed mill at Evansville, Minn.

The Olivia Farmers' Elevator Co. has been organized at Olivia, Minn.

A stock company has been formed to build an elevator at New Auburn, Wis.

The new elevator at Alma, Wis., has been completed and is opened for business.

The Great Northern is reported to be about to erect an elevator at Willmar, Minn.

The farmers in the vicinity of Balaton, Minn., have organized an elevator company.

Claus Grilk has bought a half interest in the Buffalo Lake flour mill, Brookfield, Minn.

The Bennett Grain Co. has installed a new cleaner in its elevator in Le Sueur, Minn.

The Pipestone Elevator Co. has erected a large corn crib near its elevator in Pipestone, Minn.

E. P. Bacon has bought the warehouse at Pilgrim, Minn., and is agent for the Monarch Elevator Co.

C. F. Tollefson has purchased the elevator formerly belonging to Wm. Maxwell at Fairfax, Minn.

The Thompson Elevator in Hastings, Minn., has been sold to J. E. McBride and L. A. Cobb of Minneapolis.

Robert Reynolds has taken charge of the new elevator of the Wisconsin Elevator Co. at River Falls, Wis.

The Iowa and Minnesota Cereal Co. has opened its new elevator at Albert Lea, Minn., with E. K. Tyssen as agent.

Subscriptions are being solicited for the new farmers' elevator which will be built in Danube, Minn., this spring.

O. L. Cofield has purchased the elevator at Annandale, Minn., which for many years was owned by his father, L. Cofield.

The Joseph Schlitz Brewing Co. will erect a drier house in Milwaukee, Wis. It will be used for drying brewers' grains.

The Lakefield Co-operative Farmers' Elevator Co., Lakefield, Minn., has purchased H. J. Hollister's Elevator in that place.

The old elevator owned by the Columbia Elevator Co. in Belview, Minn., has been sold to Erick Sande, who is tearing it down.

The Farmers' Elevator Co. of Peterson, Minn., has been incorporated with a capital of \$20,000. John A. Currie is its first president.

It is announced that the Washburn-Crosby Co., Minneapolis, will build a fireproof elevator to handle the wheat used in its five mills in that city. The storage capacity will be 700,000 bushels and the working house will be capable of handling 125,000 bushels in ten hours. It is planned to

clean and mix the wheat in the new house and then distribute it by belt conveyors to the various mills.

The R. E. Jones Co. of Wabasha, Minn., is building another barley cleaning house in order to cope with the rapidly increasing business.

The Thompson Elevator, owned by McBride & Cobb, at Hastings, Minn., has been put in order and the management have commenced buying grain.

Andrew Teslow has leased his elevator in Elbow Lake, Minn., to the Corson Grain Co. of Minneapolis and will in future act as the company's buyer.

Tetterby & Co. have retired from the management of the New London Milling Co.'s elevator at Mora, Minn., and S. W. McFarland of Princeton, Minn., has assumed charge.

The case of the Pine Island (Minn.) Elevator Co. against the Chicago Great Western, which the State Railroad and Warehouse Commission set for a hearing on December 29, has been postponed. The elevator company claims that the railroad charges more for hauling grain from Pine Island to Chicago than from Red Wing to Chicago, a longer distance.

CANADIAN.

The Northern Elevator Co. will erect an elevator at Aberdeen, Man.

Fraser Bros. have opened a flour and feed store at Strathcona, Alta.

S. Betsworth, flour and feed dealer, Winnipeg, Man., has sold to L. Falconer.

Wagner & McKeen, flour and feed merchants, Winnipeg, Manitoba, have sold out to W. Drew.

The new 1,000,000-bushel elevator on the G. T. R. at Tiffin, near Midland, Ont., is approaching completion.

One of the biggest elevators in the world, with a capacity of 2,000,000 bushels, is to be built at Port Colbourne, Ont.

The Alberta Pacific Elevator Co. has erected fifteen elevators, of 30,000 bushels each, in different parts of Alberta, since last July.

The cement elevator built by the Brackman-Ker Milling Co. at Strathcona, Alta., has been completed. It has a capacity of 100,000 bushels.

The elevator at Vancouver, B. C., was completed early this month. It will handle the surplus wheat crop of Alberta, which is estimated at 1,000,000 bushels.

It is reported that two large elevators will be built early in the spring at Fort William, Ont. One is for the Canadian Pacific and the other for an independent firm.

The Empire Elevator Co. will build another elevator midway between Port Arthur and Fort William, much larger than the present one at the mouth of the Kaministiquia River.

The Smith Grain Co. of Winnipeg, Man., has been incorporated, with a capital stock of \$40,000. The object of the Company is to build mills, elevators and storehouses at such points in the province as may be deemed expedient.

The International Elevator at Lang, Sask., which went to pieces some time ago, has been rebuilt. In the meantime the farmers have formed a company and the Lang Farmers' Elevator is now running, with a capacity of 40,000 bushels.

The Calgary Milling Co., Calgary, Alta., has taken out a permit for the erection of a grain storage warehouse at Vancouver, B. C. It is stated this is preparatory to the construction of an elevator for export trade. J. K. Ker, an officer of the company, is on a trip to Japan, with a view of opening up the trade.

The defective corn crop of 1905 in Mexico has caused a material change in the alcohol industry of that country. Several of the alcohol factories have been compelled to shut down on account of the high price of corn, while others have bought at a loss on their contracts. In consequence of this state of affairs some of the largest and best known firms are making contracts for vast quantities of molasses from the new sugar crop. It is their intention to turn out cane alcohol to replace or supplement the supply of the corn article.

Mow-burned or heated wheat is probably what many elevator men and millers have in their elevators and don't know it, says Zahm's Daily Letter. Recently we have had letters from three or four parties, saying they discovered some of their wheat had been heated, so it behooves all holding wheat to take a peep at it occasionally. The best way to get rid of this sort of stuff, as Zahm & Co. suggest, is to send your commission man good samples, and they will tell you about what it will sell for, you can consign it and they will sell same to best advantage.

THE EXCHANGES

The Chicago elevator, Calumet B, has been declared "regular" by the directorate of the Board of Trade.

The Boston Chamber of Commerce celebrated the new year on December 30 with a vaudeville performance, given on the floor of the exchange.

The Merchants' Exchange of St. Louis, Mo., celebrated the close of the old year with a vaudeville performance, in lieu of the old-fashioned grain fight.

The Nashville Grain Exchange, Nashville, Tenn., has decided to send a delegate to the National Board of Trade convention at Washington, January 16.

The directors of the Chicago Board of Trade have purchased and retired seven memberships from the fund raised for that purpose by special assessment.

The Capital Elevator at Duluth, Minn., formerly the Imperial, has been made regular under Board of Trade rules. The house with its annex has a capacity of 1,600,000 bushels.

There will be a hearing before the Railroad and Warehouses Commissioners at Chicago on January 25 for the consideration of the proposed changes in the state grain inspection rules.

The Change Club of the Cincinnati Chamber of Commerce heralded the new year with a musical entertainment and dance, held on December 30, in the Chamber of Commerce Building.

The Chicago Board of Trade celebrated the coming of the New Year with their annual vaudeville show. The entertainment was held in the visitors' room of the Board of Trade Building.

President Theodore Melchers, of the Wholesale Grocers' and Grain Dealers' Association of Charleston, S. C., was presented with a loving cup by the members of the Association on the closing of the business for the year on December 30.

At a conference held on December 28 between the Chamber of Commerce, the Corn Exchange and the Board of Trade of Buffalo, N. Y., it was decided that the work of grain inspection should be carried on in future by the Corn Exchange.

The Committee on Weights of the St. Louis Merchants' Exchange states in its annual report that there has been a gratifying increase of the number of cars loaded and unloaded. There was an increase of 16.4 per cent in the number of grain cars loaded.

The premiums bid for the choice of grain tables at the Boston Chamber of Commerce annual auction were the highest ever bid for these privileges. The auction took place on December 23 and the premiums ranged from \$12.50 to \$18 a square.

Brokers of the Commercial Exchange of Philadelphia, Pa., closed the year's business with the time-honored grain lattle. Thousands of bags of grain were used in the melee, which was brought to a close by a musical band breaking into the strains of "Auld Lang Syne."

The Chicago Board of Trade will take a vote on the proposition to double the commission rate on grains and provisions and require all business to be done on a brokerage basis. This action is the result of a petition which has been presented, signed by the required 100 members.

A new rule is proposed for the Chicago Board of Trade, under which no broker will be allowed to act under a salary. The rule enacts that every member of the Board who fills orders on the floor for any firm or other member will have to charge the advanced rates of brokerage on every order executed.

The committee on insolvencies of the Chicago Board of Trade have preferred charges against the members of the firm of Fyffe, Manson & Co., which suspended payment last summer and subsequently settled with most of its creditors for 25 cents on the dollar. "Overtrading" is said to be the substance of the charge. The trial will take place January 30.

Owners of grain elevators in Chicago have issued a notice that for the ensuing year rates for the storage of grain in Chicago warehouses shall be as follows: On all grain and flaxseed received in bulk and inspected in good condition, three-quarters of 1 cent per bushel for the first ten days or part thereof, and one-fortieth of 1 cent per bushel for each additional day so long as it remains in good condition. On grain, damp or liable to early damage, as indicated by its inspection when received, 2 cents per bushel for the first ten

days or part thereof, and one-half of 1 cent per bushel for each additional five days or part thereof.

The annual report of the Merchants' Exchange of San Francisco for the year ended June 30, 1905, by Secretary T. C. Friedlander, is at hand. It contains the usual record of the Exchange business, trade statistics, list of members, arranged alphabetically and by lines of business, etc., making a pamphlet of over 100 pages.

The New York Cotton Exchange has filed injunction proceedings in the United States Federal Court at Cincinnati to restrain the Odell Grain & Stock Co. of that city from using its quotations. These proceedings are in a line with the legal fight by which the Chicago Board of Trade established its property right in the quotations of its grain and provision markets.

Howard Hill, of the Chicago Board of Trade, has proposed a new method of settling the question whether or not commission rates shall be raised. Mr. Hill suggests that commission rates be left as they are in cases where trades are closed out within ten days after the first transaction is made. Where a trade remains open more than ten days the suggestion is that the higher commission charge become due at once, on the theory that the business is worth it.

At a caucus held January 6 the following were nominated for officers of the Duluth Board of Trade. For president, George Spencer; vice-president, Julius H. Barnes; directors, A. W. Frick, M. L. Jenks and D. T. Helm; members of the arbitration committee, G. G. Barnum, W. S. Moore and S. A. McPhail; appeals committee, F. E. Lindahl, D. Haig and Thomas Gibson; inspection committee, J. F. McCarthy, J. T. Hickman, A. M. Prime, C. F. Haley and John Pugh.

A petition has been circulated on the New York Produce Exchange requesting a call of the grain trade for the purpose of reconsidering the rule adopted some months ago whereby Buffalo delivery was made legal on all New York contracts. When originally adopted the purpose of the rule was to broaden the New York market and prevent corners. Its operation has, however, proved unsatisfactory to many, because buyers have suffered from one to three weeks' delay in some instances on account of having been offered a Buffalo delivery.

The directors of the Milwaukee Chamber of Commerce have adopted an amendment to the rules which will be submitted to a vote of the members. It is as follows: "To members of the Chamber of Commerce residing or permanently doing business in the city of Milwaukee, and grain merchants who are members of the Chamber of Commerce of Minneapolis, the Merchants' Exchange of St. Louis, the Board of Trade of Chicago or the Board of Trade of Duluth, not less than one-half the regular rates of commission may be charged, as hereinafter provided."

ST. LOUIS MERCHANTS' EXCHANGE ELECTION.

The annual election of officers of the Merchants' Exchange for 1906 was held on Wednesday, January 3, resulting in the following: Manley G. Richmond, president; William H. Danforth, vice-president; Edward Devoy, second vice-president, without opposition.

The board of directors elected was as follows: Otto L. Teichmann (the retiring president), Christian Bernet, E. L. Waggoner, James S. McClellan and Manning G. Cochrane.

ELECTION AT CHICAGO.

The strenuous but good-natured contest for the offices of the Chicago Board of Trade was terminated on January 8, when Walter Fitch was elected president over John B. Adams by a majority of 44 votes, and James C. Rodgers defeated Charles S. Winslow for the vice-presidency by a majority of 337. The total vote was 1,143, one of the heaviest ever cast. Many out-of-town members made special trips to the city for the purpose of voting, and quite a number of local men who ordinarily are not active in "Change politics" cast their votes.

Nearly as much interest centered in the election of directors as was taken in the head of the tickets, and friends of the different candidates put forth strenuous efforts to elect their favorites. Joseph P. Griffin, of the Glucose Sugar Refining Co., in whose behalf special efforts were made, especially by the cash houses, received a total of 815 votes, the largest vote cast for any candidate. The other successful candidates for directors were James Pettit, of George H. Daggett & Co., who received 610 votes; John J. Stream, of J. C. Shaffer & Co., 607; James E. Benett, of Thomas Bennett & Co., 586, and Henry Zeiss, of Boyd, Lunham & Co., 654.

The vote for five members of the appeals committee was as follows: Frank M. Bunch, 729; John M. Schaack, 669; William G. Husband, 622; Fred-

erick H. Babcock, 614; Benjamin R. Brown, 611; Phillip H. Schiffelin, 574; James M. McLean, 572; Simon Willard, 453; Edward J. Fleming, 390; William J. Doyle, 385.

William Carl Gibhardt was elected member of the committee of appeals for the term of one year to fill the vacancy caused by the resignation of Louis G. Squire.

For members of the arbitration committee J. C. Wood received 699 votes, Frank B. Rice 662, George A. Wagener 653, Charles P. Randall 589, Frank G. Ely 587, Alfred L. McDougal 585, John J. Leonard 556, Harry M. Smith 521, Henry R. Boomer 413, William E. Irwin 310.

KANSAS CITY ELECTION.

The Kansas City Board of Trade held its annual election on January 2, John O. Brandenbaugh, manager for the William T. Kemper Elevator Co., being chosen president. T. J. Brodnax, who was second vice-president last year, becomes first vice-president by rotation. The balloting for second vice-president resulted in a tie between A. J. Bulte and J. F. Parker. This will be adjusted later in the manner prescribed by the rules of the Board.

Six directors were elected, as follows: George B. Flack, A. C. Davis, C. M. Boynton, F. E. Essex, C. W. Lonsdale and Allen Logan. The board of arbitration chosen is composed of Samuel Hardin, F. A. Talpey, John Sellon and A. C. Pierson. A tie for a fifth place on this board between T. L. Cockle and C. W. Hoyt will be decided later.

TOLEDO ELECTS OFFICERS.

The annual election of the Toledo Produce Exchange was held on January 8, resulting in the selection of the following: For president, Charles L. Cutter; for first vice-president, Fred O. Padock; for second vice-president, Henry L. Goemann; for secretary, Archibald Gassaway; for treasurer, Fred. W. Jaeger. Directors—Frank I. King, Wm. H. Morehouse, Frederick J. Reynolds, James E. Rundell, Ernest W. V. Kuehn, Julius J. Coon, Charles S. Burge, Ezra L. Southworth, Cyrus S. Coup, William E. Cratz. Committee on Arbitration—A. Mennel, H. W. Devore, John Wickenhiser, W. W. Cummings, Herman Philipps, Raymond P. Lipe, James T. Mattimore. Committee on Appeals—A. W. Boardman, D. W. Camp, J. H. Bowman, Chas. L. Reynolds, E. N. Crumbaugh, A. W. Bunce, A. B. Cutter, Geo. B. McCabe, Fred. Mayer, Walton E. Stone, Fred. W. Rundell.

OMAHA GRAIN EXCHANGE.

The board of directors of the Omaha Grain Exchange held its annual election on Tuesday, December 26. The results are as follows: Grain—J. H. Hamilton, E. H. Huntley, E. P. Peck, F. S. Cowgill, E. C. Twamley, George H. Lyons, N. Morrison. Elevator Register—N. Merriam, C. F. McGrew, Luther Drake. Finance—V. P. Caldwell, A. L. Reed, F. H. Davis. Transportation—F. P. Kirkendall, E. E. Bruce, W. J. C. Kenyon, N. Merriam, N. B. Updike. Alleged Violation of Rules—F. J. Campbell, J. F. Von Dorn, S. J. Brown. Appeals—A. C. Smith, J. W. Holmquist, M. C. Peters, R. S. Hall, V. B. Caldwell. Quotation—S. A. McWhorter, C. L. Babcock, F. C. Hollinger, A. H. Bewsher, T. D. Worrall. Membership—A. H. Jaquith, G. B. Comstock, James Walsh, W. S. Dexter, G. C. Thompson. Elevator—F. S. Cowgill, H. H. Campbell, E. A. Cope. Arbitration—E. P. Peck, W. G. Sunderland, E. S. Westbrook, J. H. Hamilton, E. E. Bruce.

PEORIA BOARD OF TRADE.

At the annual election on January 8, 1906, the following officers were elected:

President, Robert W. Van Tassell; vice-presidents, Fred H. Smith, Daniel Mowat; secretary, R. C. Grier; treasurer, Walter Barker; directors, T. A. Grier, A. G. Tyng, W. R. Buckley, C. C. Miles, George C. Clark, Adolph Woolner Jr., E. Roberts, Frank Hall, J. H. Ridge, J. M. Quinn; committee of arbitration (two years), W. B. Kingman, C. H. Feltman, D. D. Hall; committee of appeals (two years), I. W. Donmeyer, F. H. Rockwell, Peter Casey.

CINCINNATI CHAMBER OF COMMERCE.

The annual election of Cincinnati Chamber of Commerce officials was held on January 10, resulting as follows: President, L. L. Sadler; second vice-president, James B. Wallace; treasurer, O. G. Fetter; secretary, H. B. McCullough; directors, Emil M. Mayer, Charles Heidrich, Henry W. Brown, E. E. Williamson, R. C. Crowthers. Officials holding over from last year: First vice-president, R. W. Wise; directors, B. W. Gale, E. R. Buhrman, H. H. Hill, J. M. Sears, John Hoffmann. The board of directors elect annually a superintendent, who is the executive secretary.

COMMISSION

Postlewait & Co., grain brokers of Decatur, Ill., are reported to have sold out.

Cincinnati grain men are booming John Conley for the position of State Railroad Commissioner.

E. W. Syer, formerly of Furness, Hately & Co., Chicago, associated himself with A. O. Slaughter & Co. on January 1.

James Hodge, of the United Grain Co., Toledo, Chicago, Buffalo and South Bend, is on a ranch in New Mexico for his health.

Albert Todd & Co. of Owosso, Mich., are sending out an attractive calendar showing a reproduction of a famous painting by Jean Paul Selinger.

Mr. Lynch, of the hay and grain firm of Quintal & Lynch, Montreal, P. Q., was a visitor in New York City for several days before the holidays.

H. B. Smith, the Chicago flour broker, who was suspended from membership on the Chicago Board of Trade, has made application for reinstatement.

R. W. McKinnon, of Logan, Bryan & Co., Chicago, sailed on January 6 for the Mediterranean, with the intention of spending six weeks in Italy and southern France.

M. M. Freeman has returned to the Chicago Board of Trade, after an absence of five years, and has embarked in the grain trade, under the style of Freeman Bros.

A. B. McCrillis & Co., Providence, R. I., have sold their hay and straw commission business to J. P. Donovan & Co., but will continue their flour business as heretofore.

Sam Finney, of the Chicago Board of Trade, accompanied his New Year's greeting to his patrons this year with a desk paper clip. It is a serviceable article and will prove a handy adjunct to the grain dealer's desk.

George N. Reinhardt & Co., hay and grain commission, New York, N. Y., have chosen an appropriate subject for their calendar this season—a hay field with the farm hands hustling to get the last load under shelter before an approaching storm breaks.

The National Hay & Grain Co. of Indianapolis, Ind., suspended last month, with reported liabilities of \$2,000 to \$4,000. The company, it is stated, opened an office in the Board of Trade Building in June, 1904, and conducted a general grain business, operating a small elevator, known as the Big Four.

It is announced that Bartlett, Frazier & Carrington of Chicago have notified their trade that they will accept no more orders for puts and calls for execution in Milwaukee. The reason for this action, it is said, was the unsatisfactory condition of the business, which is now too small to bother with.

W. G. Bishop & Co. of Baltimore, Md., have been succeeded by J. M. Frisch & Co. The new firm is composed of John M. Frisch and W. F. Macneal, both of whom have been identified with the business for a number of years. W. G. Bishop, the senior member of the old firm, retires after an honorable business career of over a quarter of a century.

H. I. Baldwin & Co. of Decatur, Ill., called the attention of the trade during the holidays that "Our bids are good ones" by sending out a tape measure in an attractive celluloid case. The sides of the case bore the well-known ear of corn, which is the trademark of the firm, and telephone numbers, and the article without doubt will express the idea to the recipients that H. I. Baldwin & Co. measure up very high as Illinois grain buyers.

Reynolds Bros. of Toledo will mark the days of the month for their many friends this year by a Shakespeare calendar, which they sent out to the trade during the holidays. It consists of four panels, each 15x8 inches and each containing the calendar for three months. The first panel is a handsome picture in colors of Juliet, the second that of Portia, the third of Rosalind, and the fourth of Viola. The recipients of so handsome a work may appropriately paraphrase Richard III, and say: "Now is the winter of my discontent made glorious summer by this Toledo house and their artistic remembrance."

The various glucose industries of the country are to be consolidated into one new corporation, which will be known as the Corn Products Refining Co. The new company will be incorporated under the laws of New Jersey and will have a capital stock of \$80,000,000. It is the purpose of the organizers to purchase at least a majority of the stock of the Corn Products Co., the entire stock of the New York Glucose Co., the entire

stock of the Warner Sugar Refining Co. of Waukegan, Ill., and the entire stock of the St. Louis Syrup and Preserving Co. The Peoria plant, the largest in the world, employing 2,500 men, will be reopened before spring, and plans for the remodeling of the plant and installing of new machinery have been prepared, and work will commence at once.

ABOUT THE IOWA CORN FIELD.

Director Sage of the Iowa Weather and Crop Service and the Hon. John Cownie, crop reporter for Iowa for the government, have locked horns upon the extent of the corn crop of Iowa for the current year. Director Sage says it will amount to a banner crop—not less than 350 million bushels; but Mr. Cownie says it will be a disappointment and will not exceed 300 million bushels. Both gentlemen base their estimates on the reports to them of hundreds of correspondents. Last year the crop was considered a short one, but was about 325 million bushels.

Mr. Cownie is a practical farmer, and in a long article in the Capital newspaper of Des Moines bases his prediction of a disappointing yield upon the low character of the seed corn used in Iowa, in spite of the efforts of Professor Holden and the "seed gospel" trains to teach the use of a high-grade seed only. He says the seed used was mainly spring selected instead of fall selected, which, he said, means a loss of from five to eight bushels per acre in the yield.

"A short time ago I called the attention of a well-to-do and successful farmer to the difference in one of his corn fields, for, while it all looked alike from the highway, a close examination showed a fine uniform stand on one part of the field running largely three stalks to a hill, while the other part of the field showed many blanks and a still larger number with but a single stalk in the hill," writes Mr. Cownie. "Upon asking for the reason of this difference in the field I was told that a larger acreage of corn had been planted than had been anticipated, that the seed corn selected in the fall had given out, that none of his neighbors had a surplus of good seed corn, and that he had selected and tested corn from the crib which appeared quite satisfactory, having germinated when tested 94 per cent. But as he pointed to the empty hills the language used was not such as I would care to repeat, and I am sure there is one more farmer in Iowa who will profit by his experience and secure an ample supply of seed corn in the autumn, when every well matured ear could be depended upon not only to germinate 100 per cent but also to produce strong, vigorous and healthy stalks.

"There is another important factor in regard to seed corn that is generally overlooked, and that is that corn selected in the spring may germinate and grow while it lacks in the vitality that is always found in seed corn saved in the fall. Several years ago while testing samples of seed corn forwarded at my request from the several state institutions, I was surprised to find that the sample from one institution, although planted at the same time as the others, was a few days later in appearing above ground and, instead of a strong, healthy growth of a dark green color as in the other boxes, the stalks were slim, of a weakly, sickly appearance, and of a yellowish color. Inquiry of the superintendent of the institution that forwarded the corn for the reason of having such poor seed, for it germinated only 65 per cent, revealed the fact that my instructions in regard to saving seed the previous fall had not been followed, that the crib corn failed to grow and the seed corn forwarded was from a lot purchased from a firm making a specialty of furnishing seed corn to shiftless farmers."

Mr. Cownie's argument, whether founded on an actual disappointment in the yield of Iowa's corn fields or not, was instrumental, in connection with the agitation of Professor Holden and the organizations in the Iowa Agricultural league, including the Iowa Grain Dealers' Association, the Agricultural College and the press, as well as the farmers' institutes, etc., in having October 10 set apart in Iowa as seed corn harvest day. All Iowa farmers were urged to select their seed corn for 1906 on October 10 and to follow minute directions published broadcast for its preservation during the winter. It is believed that millions of dollars would be added to the corn crop value next year if farmers would heed that appeal.

On December 7 the steel S. S. Augustus B. Wolvin arrived at Buffalo with 350,000 bushels of durum wheat on board, and was credited with handling the biggest cargo of wheat ever floated on fresh water. The Wolvin held the "belt" but ten days; for on December 17 the S. S. W. A. Rogers steamed into the same port with 351,000 bushels of wheat on board.

HAY AND STRAW

A mill is to be started at Mankato, Kan., for the manufacture of alfalfa meal.

The Northwestern Hay & Grain Co. of Chicago, Ill., has increased its capital stock from \$15,000 to \$20,000.

The firm of Griggs & Co. has been incorporated in New York, N. Y., to deal in hay, grain, feed, etc.; capital, \$10,000.

There is a steady demand on the N. Y. C. and Erie railroads for good clover mixed hay to feed cattle exported to Europe.

A variety of alfalfa specially adapted to dry lands is being developed in the West which promises to be a success.

The operation of barges on the Hudson River bringing hay and straw into Greater New York was suspended last month.

Jewell County, Kan., is the largest alfalfa county in the state. Over 43,000 acres were planted with alfalfa last year.

D. W. Hines, who operates a hay press at Hannan, N. D., and vicinity, has pressed considerable hay for farmers and shippers during the past month.

The Chelsea Exchange Bank, New York City, generally known as the "Hay Bank," has renovated its new building and put in a safe deposit plant.

The W. W. Robinson Co. of Seattle, Wash., has decided to establish a branch house in Manila, in view of their increasing imports of hay and grain to the Orient.

Over 20,000 head of cattle are being fed in Beaverhead County, Mont., this winter. Hay is more than usually plentiful on account of the large amount left over from last year.

Reports from Northern and Western Canada speak of yields of alfalfa almost as great as in Nebraska and Colorado. Several farmers in Alberta report as high as four tons to the acre.

John J. Cope, a hay shipper at Columbiana, Ohio, has gone into voluntary bankruptcy before the United States Court at Cleveland, Ohio. Assets are given as \$1,365 and liabilities as \$19,900.

S. Kleinberg, of Kleinberg Bros., Ellensburg, Wash., believes the shortage of cars, which has proved so detrimental to hay and feed buyers in his vicinity, is due to a shortage of engines rather than to a shortage of cars.

Sheds for unloading hay have been provided at Bushwick Station, Long Island, and hay billed direct to that station from original shipping point will be delivered there on the New York rate by the D. L. & W., L. V., and Pennsylvania railroads.

In one week last month thirty-eight cars of hay and grain were shipped by J. J. Van Sickle of Bucyrus, Ohio, and the record would have been ten cars more had Mr. Van Sickle been able to get cars. The cars were shipped from Bucyrus, Marion, Upper Sandusky and Tiffin, Ohio.

Harry M. Rever & Co. succeed John S. Smith & Co. at Baltimore, Md. On the death of Mr. Smith, which was noted last month, the business was taken over by the new firm. They conduct a hay, grain and feed business, with warehouse and office at 2022 and 2024 Aliceanna Street.

Samuel Harding, a member of the firm of Shepherd & Harding of Charlestown, Mass., dealers in hay, straw and grain, states the best grade of hay handled by his firm comes from northern New York, and that it commands a price of four dollars more per ton than hay from Maine or the other New England states.

The average yield of hay per acre for 1905 in the United States is given in the preliminary estimates as 1.54 tons, against 1.52 tons in 1904, 1.54 tons in 1903 and a ten-year acreage of 1.39 tons. As to quality, the average is given as 89.8 per cent, against 92.7 per cent in 1904, 91.3 per cent in 1903 and 85.7 per cent in 1902.

The Hay and Grain Dealers' Association of the city of New York filed a certificate of incorporation December 14. Directors are named as follows: Frank J. Lennon, Smith Pine, James H. Rollin, J. E. Adams Jr., William La Due, George N. Reinhardt, John Moonan, Theodore P. Huffman and Horace L. Ingersoll, all of New York city.

Forage to the extent of 39,685,000 pounds, valued at \$277,450, was imported by Natal, South Africa, during the twelve months ended December 31, 1904. In the same period Cape Colony imported 40,000,000 pounds, valued at \$280,000. Of the total amount about seven-eighths was exported from South America. The forage con-

sisted chiefly of alfalfa, semi-compressed; oat hay, compressed, and fodder, compressed. Alfalfa from South America forms the main part of the forage imports to these colonies.

The California hay interests are protesting against the almost invariable award of government contracts for hay to Puget Sound firms. They declare the California hay is superior to the Washington grade. The contract for the forage for the Philippines has been held up by the quartermaster-general until he has examined the samples of hay and oats forwarded by the several bidders.

The demand for No. 1 hay of all kinds is good, but the demand is very light on No. 2 and lower grades. Keep the poor hay on the farm. The weather will be wintry for a while and farm stock must be fed. No money has been made on poor hay in this market lately. Quotations on good hay are fully maintained. Prairie hay in good demand is quoted.—Pittsburg Grain and Hay Reporter, January 5.

Professor Fraser of Cornell University is carrying out some interesting experiments in regard to timothy growing. Single selected seeds are planted and the result carefully watched. Some plants grown from single seeds yielded one and one-fourth pounds of dried hay, while others were utterly valueless. Mr. Fraser is not at present prepared to make any deductions, but merely reports progress.

The Western Maryland Railroad Co. has completed a hay warehouse at Front and Center streets, Baltimore, Md., with a capacity of 50 cars. Hay and straw arriving at Hillen Station in Baltimore is now unloaded at this warehouse by the railroad company and free time and insurance allowed for five days, including Sundays, but excluding legal holidays. After the expiration of this period, for each period of ten days or fraction thereof, storage is charged at 30 cents a ton, minimum \$3, not including insurance.

The William Birmingham Co., Tacoma, Wash., wholesale and retail dealers in grain, hay and feed, were succeeded January 1 by the Washington Grain & Feed Co. F. W. Chovil, manager for the former firm, has an interest in the new corporation and will be its manager. A. E. Sutton of A. E. Sutton & Co., a shipping, commission and insurance firm at Tacoma, is one of the incorporators of the company, and it has been reported he will fill the position of general manager and treasurer. The establishment is located at 1740x1744 Pacific Avenue.

T. D. Randall & Co., Chicago, say in their hay market report of January 11: The receipts have been light recently and the surplus is getting well cleaned up. The demand is active and indications point to higher prices. We strongly advise shipments. Choice timothy quotable at \$12 to \$12.50; No. 1, \$10.50 to \$11.50; No. 2, \$9 to \$10; No. 3 and mixed hay, \$7 to \$8.50; rye straw, \$7.50 to \$8; oat and wheat straw, \$6. Choice Kansas and Indian Territory prairie hay, \$11 and \$11.50; No. 1, \$10 to \$10.50; lower grades, \$8.50 to \$9.50. Choice Iowa, Minnesota and Nebraska prairie hay, \$10 to \$10.50; No. 1, \$9 to \$9.50; lower grades, \$7 to \$8.50; Illinois, Indiana and Wisconsin feeding prairie hay, \$7 to \$7.50; packing hay, \$6.

There is no article of produce in the province of Quebec, says the Montreal Trade Bulletin, that farmers are more interested in than hay, and more especially is that the case at the present time, when they are holders of a large surplus from this year's crop. This surplus, however, may not be as large as some in the trade imagine, as farmers are feeding more than usual to their cattle in order to get their cows in good shape for the coming spring, as the butter and cheese industry proved such a profitable one during the past season. Farmers have been expecting an export demand from Great Britain to relieve them of their surplus hay, but so far it has not absorbed any large quantity. The prospects, however, seem to be improving in that direction, the only drawback for a big export trade at present being the high freights. It is hoped that this will be overcome by prices moving up on the other side. Only a few cars have gone forward to Providence, R. I., but there is no prospects of any business being done to any extent in that direction.

Freeman Bros. & Co., Chicago, report January 11: Timothy—Market warrants your shipments. Prices are firm. Very little is en route, and you can make no mistake by shipping. Arrivals are very light and market is well cleaned up. Buyers want hay, and when this is the situation it behooves you to ship. Prices will undoubtedly show a slight further advance, and as high prices can hardly be expected with so large a crop, we trust you will see the wisdom of our statements and will let shipments come to market at once. Prairie—The demand for prairie is light. There is less consumed each year. Consumers have got used to feeding timothy, as it has been comparatively cheap and is obtainable at all times,

whereas high grades of upland prairie are not obtainable at all times. The bulk of arrivals are common goods and sell slowly. Straw—Market very dull. Offerings large, but fresh advices from the country are falling off, and as soon as the surplus now on hand is worked off, a better market will prevail.

Do not neglect this opportunity, but make special efforts to get cars and route your good timothy hay at once. Market is in need of this class of hay and will pay high prices for it.

HAY ELECTION IN KANSAS CITY.

The annual business meeting of the Kansas City Hay Dealers' Association was held in December and officers for the ensuing year elected as follows:

President—B. F. Tyler.

Vice-president—J. M. Hail.

Treasurer—F. W. Taylor.

Secretary—E. R. Boynton.

Directors—C. B. Carlisle, P. E. Drought, J. I. Huffine, W. H. North, J. B. Robinson, R. C. Bell.

Arbitration Committee—J. P. Rosbrook, Joe A. Stahl, R. C. Brown.

NEW HAY SHEDS IN KANSAS CITY. KAN.

Operation of the alfalfa meal mill and warehouse, recently constructed for the Woolsey-Stahl Hay Company at Kansas City, Kan., was begun last month.

The plant is located at the corner of Second street and Nebraska avenue and measures 65x142 feet. It is constructed of gas burned brick. The alfalfa meal mill proper is 65x40 feet, two stories high, and has been equipped with machinery for the grinding of alfalfa hay. Power is supplied from two 70-horsepower Westinghouse Motors. The hay and grain storage warehouse is 65 by 102 feet, with 19-foot ceiling, and is designed for the convenient handling of hay, grain and feed for the jobbing and shipping trade. Track room is provided for handling ten cars a day in addition to taking care of local trade. The building has large loading-out docks and sacking platforms on three sides.

The Woolsey-Stahl Co. writes that the growth of the alfalfa business probably has been greater than that of any other industry in the country. It was but a few years ago that the market required about one or two cars of alfalfa hay a week for the purpose of feeding Belgian hares. So far as is known this firm was the first to recognize the merits of alfalfa as a general dairy and stock food and were among the first dealers in Kansas City to take up the business of introducing this new food to the dairy and feeding interests of the country.

Their annual shipments to the South alone for 1904 were over 200 cars, besides which hay was furnished to the Illinois University Station at Champaign, Ill., and to dealers in Illinois, Missouri, etc., but they have been prevented from doing much business east of the Mississippi River, owing to excessive and unreasonable freight rates.

IMPROVEMENT OF HAY FIELDS.

Much that will interest the shippers who buy and ship hay is contained in a paper on "Better Yielding Grass Lands," which was read before the Illinois Farmers' Institute last month by Professor Charles F. Curtis, Dean of Agriculture, I. S. C. The paper subject recalls the problem of how to improve the quality of hay which has been proponed by the National Hay Association. The professor spoke of the corn revival throughout Illinois and the entire corn belt, which he thinks is an excellent thing, as it certainly means that much better results are to be obtained. He continued in part as follows:

"We need to have, as well as a corn revival, a grass revival. We need to study the grass crop as well as the corn crop. The two great products of the central West are corn and grass, and the greater of these is grass. That is, the grass and the forage crops of our farms and our farming states are of greater value, taken the one year with another, on an average, than any other single crop that we produce.

"As a rule, we give less consideration to the hay and grass lands—and especially is this true of our grazing lands—than to any other part of our farms. I believe they are the lands that are the most susceptible to improvement, and it is the crop in which we can increase the returns with the least expenditure of additional labor, and at the least cost.

"We are confronted with new conditions in the agriculture of the central West to-day. We have seen these lands advance, within a decade or a little more, from \$50 and \$75 to \$100 and \$150 per acre, and it is my prediction that they have not yet reached the limit. At the same time, while these western lands have been advancing in value we have experienced a decline of 25 to 50 per cent

in the lands further east, the lands of the Ohio and Miami valleys and eastward from that. There will sometime be a corresponding advance in the lands of some other sections, if we do not give attention to the right methods of maintaining the productive capacity of our farming land.

"It is sometimes said that when land becomes worth a hundred dollars an acre or more, that it is worth too much to maintain in grass. I believe that statement and that theory are entirely fallacious. If we were to-day to reduce the cultivated lands devoted to the grain crops 25 per cent and apply better methods, and devote that reduction of grain crops to grass production, that we might maintain our present output of grain, and at the same time have this increased grass land, that could be applied to the production of live stock, with greater profit than any other part of the farm. And I think it goes without saying we all recognize that we could reduce the acreage of our cultivated grain crops one-fourth without decreasing the yield, if, at the same time, we could apply the best methods of more thorough cultivation and of rotation, and the improved methods of agriculture which are being introduced to-day.

"Now, in view of the fact that the grain crops have all advanced in value, in view of the fact that everything a farmer buys to balance his corn crop is high priced, and will undoubtedly continue high in price, I believe that we have, right on our farms and in the products of our farms, the means of balancing the ration, with greater economy and with greater profit, and with greater advantage to the maintenance of the fertility of the farm, than through the purchase of any of the by-products from the factories or the mills. These products must continue to be high, and while of course we do not expect to quit producing them, because there is a certain output from our factories and our mills that must always be consumed on the farm, and they ought to be consumed here rather than go abroad, yet there is a limit to the price we can pay for them and utilize them with profit.

"Instead of paying out a large amount of money for these products at high prices, we might better produce on the farm the feeding stuffs containing the nutrients and the elements of growth and muscle and bone making that we need in our animals. The safest, the surest and the best means of producing that will be through the grass crops rather than in the grain crops.

"It is not always the case, but as a rule, the pasture receives no consideration until all other parts of the farm have been brought under improved methods. And if we were to give it the annual attention in the way of top dressing, in the way of harrowing and distributing fertilizer, in the way of renewing the grass seed, and in the way of drainage, keeping the soil sweet and light and in the best possible condition, I believe that we could practically double the output from our pasture lands.

FOREIGN NEWS

Portugal is said to be short about 3,000,000 bushels of wheat.

The reduction of duty on wheat into Mexico has been extended to June 30, 1906.

Argentina's wheat exports for 1905 exceed 113,000,000 bushels, compared with 93,000,000 bushels in 1904.

The Hull Chamber of Commerce is trying to establish a line of steamers to Australia. A similar line to Canada died for want of support.

A new steamship service has been established between Bulgarian and Danubian ports and Manchester, the first steamer sailing in December.

Limerick, Ireland, is talking of building a grain elevator. At Waterford an application to the corporation to erect a jetty has been made by a firm of grain buyers, who have already erected the elevator of the ferro-concrete type—the first building of its kind in Ireland.

The arrival about December 1 of the first sample of the 1905 American corn crop created considerable interest on the Liverpool Corn Exchange. The corn, which was exhibited for sale by Messrs. Slater Bros. & Co., was considered of A1 quality, and a splendid sample.

When Mr. Chamberlain, arguing at Colston Hall, Liverpool, for a 2s. duty on wheat (6c. per bushel) was interrupted by the rejoinder, "It won't stop there," he replied only, "That's your affair." Milling then referred the matter to the precedent of Germany, which began in 1870-78 with free wheat, then (1879-1884) with a duty of 6½c.; 1885 to 1887, 19¾c.; 1888-1891, 32½c.; 1892-1905, 25¼c., and now, after March 1, 1906, 36c.

BARLEY AND MALT

Two fires within half an hour caused damage to the extent of \$2,000 in the malt plant of John Stanton at Troy, N. Y.

A denial comes from Dayton, Wash., of the report that all the barley there had been sold. It appears there are still nearly 200,000 sacks in the local warehouses.

The first shipment of barley to be sent abroad this season left Tacoma, Wash., on December 27, when the French ship, *Duchess de Barry*, cleared for Queenstown with 53,169 sacks of barley.

J. P. D. Smidt of Tacoma, Wash., has shipped eighty-seven carloads of barley to England. Mr. Smidt says barley is annually coming into wider use for stock food and that there is a good prospect of fair prices for years to come.

George A. Weiss, the founder and president of the George A. Weiss Malting & Elevator Co., Chicago, Ill., died suddenly of heart failure on December 10. Mr. Weiss was a native of Germany and came to this country when he was 23 years old. He was 53 at the time of his death.

The Salem Brewing Association, Salem, Ore., contemplates the erection of a malting plant in connection with the brewery, but the management is held back by the fear that there is not enough barley grown in Oregon to warrant such an investment. At the present time most of the barley used by the Association is bought in Wisconsin.

The Berlin Brewing Institute has adopted the following methods for the detection and extermination of the barley weevil: A medium sized pan with smooth dark-colored inner walls and outwardly curved edge is placed in the suspected heap and left there for a few days. The weevils, being light-shunning insects, crawl into the pan, but cannot get out again. The heap of grain should then be put through the winnowing machine which will separate the weevils along with the cleanings.

Der Boehmische Bierbrauer gives seventeen points as the marks and properties of barley which are considered by the brewer in purchasing. They are as follows: 1, form or shape of the berry; 2, uniformity or equality of the berry; 3, color and its uniformity; 4, grade of the barley; 5, purity of grade; 6, purity in cleaning and grading; 7, ripeness, maturity of the berries; 8, weight of the barley by the cwt. or 1,000 kernels; 9, moisture, water content; 10, mellowness of the grain; 11, germinating power; 12, fineness of the husk; 13, starch content; 14, albumen content; 15, damaged berries; 16, sprouting; 17, odor.

[For the "American Elevator and Grain Trade."]

PRESENT SITUATION OF BARLEY.

BY E. C. BUTZ,
Manager Barley Department, Rosenbaum Brothers,
Chicago.

The barley crop of 1905 has proven a disappointment (so far as quality is concerned) in the states of Iowa, Minnesota, South Dakota and sections of Wisconsin. Excessive rains during harvest and while the grain was in the shock resulted in the staining and otherwise quite badly damaging the quality as well as decreasing the quantity of the yield.

The state of Wisconsin was again favored with the best quality and the yield was about the same as in previous years. Good, careful farming again showed up a winner.

With a world of low quality and feed grade barley on hand, the situation was saved by the poor fodder crops in continental Europe. The foreigners, coming into the market as free buyers of feeding stock, took about 15,000,000 bushels, in round figures, up to the first of January. This foreign demand firmed up the market so that prices for the malting grades have held fairly steady throughout the season to date, and prospects now are we may see higher prices as the year grows older.

The malt situation is in a healthy condition. Sales have been satisfactory and there are still a number of requirements that have not been supplied. The maltsters look forward to a continued good demand. Stocks of barley are nowhere excessive, and with the natural transportation difficulties usually encountered at this season of year, the demand will not be exceeded by the supply.

Choice and good barley particularly will be wanted, while the fair and common grades will always find a ready market. The new German tariff reduces the import duty on feeding barley 20 points, while raising it on corn, oats and other grains available for feeding. This will give an impetus to the demand for feed barley, and we look

for the foreign requirements to fully take of the feed grade.

Western advices indicate that not over 20 per cent of the crop is available for spring shipment and central territory reports 35 per cent back. Wisconsin will have a little more barley to ship, but not as much as in previous years. The premium Wisconsin stock has enjoyed this season has moved a much greater percentage of the Wisconsin crop than usual.

PURE RACES OF BARLEY.

[From an address by David G. Fairchild, of the U. S. Department of Agriculture, read at a meeting of the American Brewing Institute, in New York City, on November 11, 1905, and published in full in the American Brewers' Review for December, 1905.]

The varieties of barley grown in America are practically all mixtures of two or more races. No such thing as a pure race of barley is yet grown on an extensive scale, and the Department of Agriculture, through its office of seed and plant introduction, has started the work of introducing pure European races.

In all this discussion and in all the analyses that I have seen, no account is taken of the fact that we are dealing with mixed barley. Barley races or varieties vary as do the races of every other plant. Why should a brewer expect to manufacture a uniform quality of beer from barleys of such varying character any more than a winemaker should expect to make a uniform wine from a mixture of different kinds of grapes, without even knowing what kinds they were? As there are races of grape unsuited for wine making, so there are races of barley which, at least in Europe, are not considered suited for beer making. The time, it seems to me, has come when brewers should recognize the chaotic condition of the barley industry of this country and do their share toward its improvement.

The first step to acknowledge is the advisability of having pure races of barley; whether two-rowed or six-rowed, are points to be settled by comparisons made between pure races and not between mixtures. In order to encourage the farmers to grow such types of barley as are best suited for malting purposes, seed of pure races must be had and these must be kept pure. Pure races do exist, and these can be kept pure by occasional inspection and selection.

Uniformity, which I understand is one of the prime requisites of brewing barleys, can only be reached by working to establish pure races whose characters shall be described in such a way that they can be recognized by an examination of a sample of grain. So long as the races of barley are mixed as they have been in every commercial sample that I have examined in America, it is difficult to determine of what races a sample is made up, just as it is difficult to say what is the percentage of a litter of mongrel puppies. But so soon as pure races, such as those created by Dr. Nillson of Sweden, are commonly grown, it will be possible to tell, after a short study, whether they are pure or mixed with other races. Now it is impossible. In Sweden race purity is determined microscopically by experts, who examine 1,000 kernels and write out the per cent of adulteration. What has been done by the Swedes can certainly be accomplished in America, providing the brewers and maltsters will give it their attention.

How great the ignorance in this country is regarding these characters by which races of barley can be identified, is illustrated by the fact, which I have observed, that not a brewmaster or maltster whom I have interrogated has been able to tell me the difference between a two-rowed and a six-rowed sample of barley. There are many who profess to be able to distinguish these entirely different species, and who can doubtless often do so without being able to describe how. There are differences in the character of the grain, however, which appear as great under a microscope as the differences between goats and a sheep do to the naked eye. These differences can be learned by an intelligent youth in a few minutes, and yet there are brewers who do not know whether their bins are filled with thousands of bushels of one species or the other, and who must trust their buyer, who passes on from the farmer who grew the barley the information as to whether it was two-rowed or six-rowed.

But these differences between two and six rowed barleys are only more pronounced than the differences which distinguish the various races. These differences have been well worked out by Dr. Hjalmar Nillson, director of the most remarkable seed breeding laboratory of the world (that at Svalöf, Sweden), who has shown how pure races can be created and how adulterations in pure barleys can be detected.

Two recent discoveries bear indirectly upon this question of pure barleys. They are both discoveries by Americans. The one is a new

and remarkable microscope wonderfully suited to the work of studying the grain characters of barleys. This microscope is the Greenough dissecting microscope, and it is manufactured in Jena by the famous firm of Carl Zeiss. With it a view in proper perspective of a kernel of barley can be had which has never been possible with the old types of microscope. It approaches the view which we might imagine an ant or a fly to have as it crawled over the surface of the grain and investigated with its antennæ the various crevices of the husk or chaff. The other discovery, that of Dr. N. A. Cobb in Australia, is a method for the dissection and analysis of a single grain of wheat. By means of this method Dr. Cobb has been able to determine the percentage of gluten, starch and bran in a single kernel and to locate in the grain the cells which furnish these different constituents. In the organization of a new race of pure barleys this method of analysis cannot fail to prove of advantage, since it will enable the breeder, when he finds a promising individual barley plant, to analyze a few of its kernels without malting them, and, if it proves valuable, to grow the remaining seeds in larger and larger quantity in successive years until he has seed enough for field use. It should also be of value in the work of following the growth of malt on the floor. In other words, it is a method not difficult to learn, and probably capable of yielding results in the study of brewing barleys, as it has in the investigation of the milling value of wheats. If it is granted that pure races of barley are desirable, and if it is proven that with the microscopical apparatus at our disposal we can identify the races of barley and keep their race purity under observation, the question to be decided by the brewers is what qualities go to make up an ideal brewing barley.

The factor of flavor does not appear to me to have been probed to the bottom. In how much does a variety of barley influence the flavor of the beer and where in the barley grain do the cells reside which give to the beer its flavor? Is the husk a necessary evil, useful in the mechanical straining of the wort, but otherwise giving to the beer an objectionable flavor? By selection, if methods of determining flavor can be devised, which I have no doubt they can be, races with flavorless husks can be created. If husks are proven to be an objection, why is it not possible, by the employment of different filtering apparatus, to use the hull-less barleys which are being grown in larger quantities each year in the Northwest?

The office of seed and plant introduction was organized for the purpose of securing from foreign countries the most various types of useful plants. Through the correspondence which we have established in different parts of the world, it would be possible for us to get together probably fifty per cent of the important varieties of barley which are now cultivated in different parts of the world. We have already introduced a number of barleys from Arabia, Algeria, Asia Minor, Japan and the continent of Europe, but with the exception of a set of Swedish barleys, secured from the seed breeding station of Svalöf, and the famous Hanna barley of Moravia, none of these imported types have been pure races, and although several of them are being grown in larger and larger quantities each year, we hesitate to encourage their planting by farmers because of their mixed character and their undetermined brewing value. It seems to me that decisive steps should be taken by the brewers to determine what types of barley are best suited to the manufacture of American beer. I have attempted in one particular instance to bring about such a test—by the introduction and somewhat wide dissemination of the Hanna barley, which is recognized in Europe as one of the very best brewing barleys. This Hanna is a practically pure type, having been originated by the Ritter von Proskowetz of Quassitz, Moravia. It has proven itself well adapted to certain regions in this country, and has proven unusually successful on the Pacific Coast, where the spread of its cultivation has been unusually rapid. The results of these practical brewing tests will serve as a guide in checking or increasing the further distribution of this particular variety.

It seems to me, therefore, that the time has arrived when the question of pure races of barley should be given the attention it deserves; and, with already existing pure races, with the apparatus for their careful study and the detection of impurities, and with an organized office of the Department of Agriculture for the dissemination of the seed of such races as shall be found superior, it ought not to be a difficult task to substitute, in those regions from which brewing barleys are drawn, pure races of approximately known brewing value for the mixed, and in many ways unsatisfactory, barleys which are now grown there.

IMPORTS AND EXPORTS OF BARLEY AND MALT.

BARLEY.

Imports—	Bushels.	Value.
November, 1904	36,542	\$ 17,971
November, 1905	5,010	2,608
Eleven mo. end. Nov., 1904....	88,636	43,236
Eleven mo. end. Nov., 1905....	21,559	11,054

Exports—

November, 1904	2,274,657	1,165,260
November, 1905	2,109,965	1,042,175
Eleven mo. end. Nov., 1904....	7,106,235	3,882,095
Eleven mo. end. Nov., 1905....	11,822,711	5,947,841

BARLEY MALT.

November, 1904	18,337	12,632
November, 1905	100,731	66,690
Eleven mo. end. Nov., 1904....	440,829	315,116
Eleven mo. end. Nov., 1905....	585,887	399,652

COURT DECISIONS

Bill of Lading—Bank—Lien.

The Kentucky Court of Appeals held, in the case of The Kentucky Refining Company vs. Bank of Morriston, that the assignment of a bill of lading was a symbolic delivery of the property represented by it. In this case bills of lading were attached to drafts drawn by the shipper and were given to secure so much of the appellee bank's debt as was evidenced by the bills of exchange. The court held that the bank thereby acquired such a lien as if the property itself had been delivered.—Bradstreet's.

Sale—Delivery—Waiver—Damages.

The Kentucky Court of Appeals held, in the case of Bell vs. Hatfield, that where a contract for the sale of cattle provided that they should be delivered upon notice by the buyer of the day he would receive them, the delivery to be about September 1, "with a few days to play on," the failure of the seller to select the day and give notice was equivalent to a waiver by him of tender of the cattle. The court further held that the measure of damages in the case was the difference between the contract price and the market value of the cattle at the place of delivery at or about the time when the contract was to be performed.—Bradstreet's.

"Without Recourse."

A customer offers us a check on an out-of-town bank, and, following his indorsement on the check are the words, "without recourse." Please tell us the effect of this. Does it mean that our customer cannot be held for the amount in any case, even if the check turns out to be a forgery, for example, or does it release him only in certain special cases, and, if so, in what cases?

Reply.—An indorser "without recourse" may or may not be held liable, according to the grounds upon which it is sought to hold him. An ordinary indorser warrants (1) that the paper is genuine, that is, that all of the signatures are what they purport to be; (2) that it is valid, that is, that it was given upon an enforceable consideration; (3) that all of the parties are of lawful age and otherwise competent; (4) that the indorser has a lawful title to the paper and a right to convey it; (5) that it will be paid promptly at maturity. The indorser "without recourse" is bound by all of these warranties except the last. He cannot be compelled to pay the paper simply upon the ground that prior parties have failed to pay it; but he is liable upon it if it contains any forgery; if it was given for an illegal or otherwise invalid consideration; if any of the parties were incompetent to contract, or if the indorser had not title to the paper of the time of its transfer.—New York Journal of Commerce.

Railway Liability and Railway Leases.

Secretary George A. Wells publishes in a special bulletin the following opinion by the counsel of the Iowa Grain Dealers' Association, of which the following is the point at issue: "That the contract as provided in lease of elevator sites on right-of-way of a railroad company, exempting the railroad company from liability for injury to or destruction of property located upon such leased premises, is valid, according to decision of United States Supreme Court as stated in legal opinion cited below." The opinion in full is as follows:

"Blank owned an elevator located on the railway right-of-way, or depot grounds, under a lease from the railway company containing the following provisions:

"III. That the lessee shall continuously operate, and keep open for business the elevator aforesaid, unless the same be closed by written consent of

the railroad company; that he will carry on the business thereat in a prompt and efficient manner and to the satisfaction of the general manager of the railway company, and that he will not in any way obstruct or interfere with the tracks of the railway company.

"IV. That rates being equal, the lessee shall do all his transportation business to and from the premises aforesaid over the railroad of the railway company in preference to any other road.

"VI. That the railroad company shall be exempt and released, and the lessee does hereby release said railroad company from all liability for injury to or destruction of property, whether real or personal, of the said lessee, or in which he shall be interested at any time, situated upon said leased premises, or upon any neighboring premises owned or occupied by the lessee to which fire may have been communicated from the leased premises, which shall be caused by fire or by any other negligent condition or operation of said railway company's railroad, engines or cars or by reason of any other cause whatsoever."

"On the blank day of blank, a freight train ran off the track and demolished the elevator. The wrecking was caused by a hot box with which the train had been running for several stations. The act of operating the train in the manner stated was clearly negligent and the railway company would be liable but for the provision in the lease above quoted, releasing and exempting it from negligence in the operation of its trains. The question of the validity of a similar provision was before the Supreme Court of Iowa in Griswold against Railway Companies, 90 Ia., 265. That case was twice before the Supreme Court. Upon the first hearing the provision in the lease was held to be invalid, as against public policy. (Griswold against Railway Company, 53 N. W., 295.) A rehearing was granted and upon the rehearing the court adopted the opposite view, and held the provision valid and exonerated the railway company from liability. In The Hartford Fire Insurance Company against Railway Company, 175 U. S., 91, the rule announced in Griswold vs. Railway Company was adopted by the Supreme Court of the United States and the railway company held to be exempt from liability. This case also arose in Iowa.

"In both cases the question was with respect to liability for fire caused in the operation of railway trains, and they accordingly presented more persuasive reasons against the validity of the provisions in the respective leases, exempting them from liability because of an express statutory provision imposing a liability for fire.

"We regard this case as conclusive and controlling and are accordingly of the opinion that upon the case stated the railway company is not liable for damage to the elevator destroyed by its act of negligence."

ARBITRATION DECISION.

Following is a decision of the arbitration committee of the Kansas Grain Dealers' Association in open session at Salina, Kan., on January 4, 1906:

G. E. Ady & Co., Denver, Colo., versus J. G. Maxwell & Co., McPherson, Kan.—This controversy arises on account of grain sold, delivered Denver, which became damaged in transit. Under the terms of the contract and the customs of the trade, the seller is required to deliver the corn at Denver in good merchantable condition. In the absence of any official inspection, the buyer should have inspected all shipments on the first arrival at Denver; whereas he only inspected one car and that three days after arrival. To this extent the buyer was liable for contributory negligence.

These shipments were out fifteen and seventeen days each, at the end of which time affidavits were offered, showing the grain to have been black, growing and unmerchantable. It would, therefore, appear from the evidence that it must all necessarily have been more or less out of condition on first arrival at Denver. To determine the extent of this damage is the duty of this committee; and after a careful consideration of the correspondence offered and evidence introduced, we unanimously award the buyer and plaintiff in this case 15 cents per hundredweight on the contents of cars No. 3604 and No. 4991, amounting to \$119.07, and direct that the defendant promptly remit to E. J. Smiley, secretary of this Association, a sufficient amount to cover the same, together with the costs of this hearing, which costs amount to \$53.05.

Witness our hands and seals at Salina, Kan., this 4th day of January, 1906.

A. H. BENNETT,
J. T. WHITE,
W. A. MILLER.

Note.—The evidence in this case showed that the seller contracted to deliver a certain quantity of good, sound, new corn at an agreed price in Denver; that the grain was shipped and drafts made and paid; that these shipments, which originated from the same point and at the same time, were

delayed in transit; that before the grain reached Denver the buyer ordered one car forwarded to Greeley, another to Loveland and the third to a warehouse in Denver, and that the grain was so disposed of by the transportation company; that on arrival at the warehouse in Denver the corn in one car was found to be black and rotten and on the top new shoots had grown to the height of two or three inches; that the same was true of the cars on arrival at Greeley and Loveland; that one of these cars was sold at a great sacrifice; that the other was refused altogether and returned to the people at Denver, and was there disposed of to best advantage; after which the buyer made claim against the seller for an allowance of 25 cents per hundredweight. It was held by the committee that in the absence of any official inspection at Denver it was the buyer's duty to have examined each and all of these shipments promptly on arrival at Denver, and that in failing to do so he was liable for contributory negligence, notwithstanding the fact that all three cars were found in the same condition when opened at destination; and on that account a deduction of 10 cents per hundredweight was made from the amount claimed.

IN THE COURTS

A decree in favor of the Choctaw Elevator Co. for \$2,209.30 was rendered at Memphis on December 17 against the J. Rosenbaum Grain Co. and the latter's prayer for a receiver for the Choctaw Co. denied.

An action was begun at Visalia, Cal., by the Union Warehouse, a corporation, against the Visalia Rochdale Co. for \$705. It is alleged by the complainant that since June 1 last 63 sacks of wheat have been stolen or embezzled from the Lindsay Warehouse of the Union Warehouse and 222 from its Tarusa Warehouse; and that this wheat later came into the possession of the defendant. The wheat, it is alleged, was a part of a quantity stored for patrons and was valued at \$705.

In the action of Homer T. Fowler against the Metzger Linseed Oil Co. of Toledo, the referee decided that Fowler was not entitled to the \$7,500 claimed by him and that he was indebted to the defendant company to the amount of \$3,783.75, making a difference against Fowler of \$11,283.75. Fowler claimed that the Metzger company had contracted with him for the delivery of four cars of flax a day and agreed to allow him \$50 a month for supervising the loading of the cars. The company denied having entered into any such contract.

Million & Million, grain buyers at Burnettsville, Ind., have brought suit against the Pennsylvania Railroad Company, claiming that after selling grain for delivery in Baltimore they found it impossible to make such delivery because they could not get cars in which to send the grain east. The complainants have taken testimony in Baltimore preparatory to going into a trial of the cause. These depositions are expected to prove that the Baltimore buyers ordered the grain forwarded and that the Burnettsville firm could not deliver the goods.

A. N. Bontz has begun suit against the Missouri Pacific Railroad Co. at Hutchinson, claiming damages of \$358.58. Mr. Bontz alleges the Railroad Company's failure to deliver the full amount of grain consigned by him to firms in Kansas City. Shortages are claimed on three different shipments, equal in amount to \$182.20, \$145 and \$30.75, respectively. As the Railroad Company has no track scale at Norwich, where Mr. Bontz operates a mill and elevator, the issue in the case will be whether a railroad company must accept the figures of the shippers as to the amount of grain in a car where there are no track scales and where there is a loss through leaky cars.

The New York Supreme Court will be called on to decide a dispute between the Electric Steel Elevator Co. of Minneapolis, Minn., and the John Kane Malting Co. of Buffalo, N. Y., which was originally referred to the arbitration committee of the Buffalo Chamber of Commerce. The dispute arose over the sale of a large quantity of barley, contracted for by the Elevator Company, but which was refused by defendants on the ground that it was not up to the samples submitted. The arbitration committee found in favor of the Elevator Company, but when the company came into court for the purpose of entering judgment the Malting Company raised the point that the agreement for referring the matter to arbitration was defective, inasmuch as in the notarial certificate the name of the officer executing on behalf of the Elevator Company was not written, and further, that the

county clerk of Minneapolis had not attached his certificate showing that the notary was properly qualified. Justice Marcus was asked to make an order having these defects remedied, but refused to do so; and the matter has now gone to the Supreme Court.

The Waite-Thornburn controversy with Bartlett, Frazier & Carrington about settlement of their deals in oats on the July deal for 1902 has been settled out of court, the former paying the latter differences on the basis of 57½ cents for standard oats (N. S.) and 42 cents for mixed oats (O. S.). The Board of Trade committee named 64 cents as the settling price for new style contracts and private arbitrators in other cases named 57½ cents. In the suit tried before Judge Chytraus 42 cents was the price fixed, but the decision was reversed by the Supreme Court on the ground that the Board of Trade had the power to fix marginal prices and terms of settlement in case of defaults. The settlement price was the one price originally named by private arbitration.

THE REAL PRINCIPLE AT ISSUE.

[From an address by Congressman Townsend of Michigan to the annual meeting of the National Hay Association at Toledo.]

The question we have been contending for is a question largely, in my mind, at least, of principle; and that question is this: Has the American people, through its representatives, the right to control in any degree the public service corporations of this country? Has it a right to control especially the interstate corporations which control traffic? That in simple terms is the principle that is up for discussion. And with that in view, and discarding from the start the notion that I have any grievance against any railroad corporation as such, or that I have any hostility against any corporation organized to do a legitimate business, I desire to discuss the question already before the country.

I maintain from reading the various speeches that have been made on this question, that those who have represented the railroads have not properly differentiated the causes at issue. They have assumed in all their questions and in all of their discussions that the railroad corporation is the same as the individual. They have assumed that it would be wrong for the government to interfere with your business as an individual; therefore, they say, it is wrong for the government to interfere with the business of the public service corporations of the country.

If I am correct about it, there is a wide difference between the two positions. Railroad corporations exist, as the president of the Southern Railroad, Mr. Spencer, declares, for the purpose of performing certain public services; and before any railroad existed the governments of the various nations of the world had assumed it was within their power to regulate interstate carriers. That was before railroads existed; and there is not a railroad corporation that exists in the United States to-day but has that existence by virtue of a charter granted by the people; and that charter, either in express terms or impliedly, under the common and constitutional law, says that the service which those corporations shall render shall be just and reasonable. (Applause.) That is a condition under which they are doing business to-day, and there never has been any other kind of a charter granted.

And the railroads themselves admit it. The people of the United States have granted to the railroad companies of this country certain powers of sovereignty which exist only in the people themselves. They have said to the railroads, "We will confer upon you that sovereign power of going into any community, when it is found necessary, and taking possession of land by condemnation proceedings," a privilege you and I as individuals do not possess. And this is a proper power; I am not finding fault with that. The railroads are necessary; they have done a great good in the world, and especially in the United States. But the government of the United States has no right to confer upon any individual, or any set of individuals, as individuals, any special rights or benefits. This government cannot do something simply to benefit me or you, or a set of us bound together, except it shall come incidentally. The only thing which the government has any right to do is to grant privileges which shall be for the common good.

Lands have been granted to railroads, not to benefit the railroads but to benefit the people. And always, I repeat, when that power has been conferred it has been with the express provision that all of the railroad's charges and regulations shall be just and reasonable. And that is a proper contract. And in order to preserve the rights of the railroads the government of the United States may—nay, it has—ordered out the troops to protect the interests of the railroad companies.

Now, the people say that there are two parties to this contract—one of them the people and the other the railroads. If the people righteously complain, they should have a day in court; and there should be provided a tribunal which shall honestly hear the differences between the railroad companies and the people. (Applause.)

The interstate commerce law, passed in 1887, creating the Interstate Commerce Commission, recognized that the principle which I have stated existed before the railroads did—has existed as long as there has been interstate commerce, whether by mules or packhorses or any other form of conveyance. And there was put into this law, into the first section: "All charges made for any service rendered, or to be rendered, in the transportation of passengers or property, as aforesaid, or in connection therewith, or for the receiving, delivering, storing or handling of such property, shall be reasonable and just, and every unreasonable and unjust charge for such service is prohibited and declared to be unlawful."

A commission was created under that law in 1887; and they proceeded to perform the duties which they believed belonged to that commission. And one of the first orders that commission made was an order fixing rates. They considered the reasonableness of a rate, because the law says that all rates shall be just and reasonable. Consequently, they proceeded to determine what were just and reasonable rates, and they kept it up for nearly ten years. And of all the orders they made, 90 per cent were acquiesced in by the carriers; and the rates were reduced and changed to what the commission said they ought to be.

Then occurred the great Southern rate case, known as "The Maximum Rate Case." That case was carried to the Supreme Court of the United States, which declared that the commission could decide what was an unjust and unreasonable rate, but could not tell what was a just and reasonable one to take its place. . . . Then there was confusion in the country. The commission had practically come to be a nullity; . . . and later reported to Congress that power should be given the commission to fix a rate.

During the vacation the Senate committee has been taking hearings, and railroad men and others from all over this country have been giving their testimony. They have been stating to the people that it would be disastrous to the interests of the country to allow any commission to fix a rate. They dodge the question by stating that this commission is to fix all rates. No bill contemplates that. If, upon the complaint of any interest they find a rate is unjust, the power is sought to be conferred upon the commission to say whether it is just or unjust, and if unjust to say what shall be put in its place. It requires no new exercise of power to do that. For myself, if I believed the law said that this commission could find what was unjust and unreasonable, I could not see, as a lawyer, where there was any new power brought in to determine what was just and reasonable. I do not know what unjust is unless I first know what just is. How can I tell what is unreasonable unless I can compare it with the standard of reason? How do you know, and how do I know, what is wrong unless we first know what is right? The same mental calculation, the same process of reasoning, the same source of proof which finds the unreasonable and the unjust must first, perforce, have found what was reasonable and just.

OUR CALLERS

[We have received calls from the following gentlemen prominently connected with the grain and elevator interests during the month.]

C. W. Friedrich, Dyer, Ind.

A. H. Munson, of Munson Bros., Utica, N. Y.

W. B. Smith, of R. M. Brinkworth & Co., Bristol, Eng.

Charles E. Bettendorf, of Bettendorf Bros., Sublette, Ill.

Charles Hammond, of Huntley Mfg. Co., Silver Creek, N. Y.

J. A. Heath, manager Richmond Elevator Co., Lenox, Mich.

L. V. Rathbun, representing Great Western Mfg. Co., Leavenworth, Kan.

S. McTiernan, St. Louis, Mo., representing Huntley Mfg. Co., Silver Creek, N. Y.

L. Cortelyou at Muscotah, Kan., tested a new loader the other day and put 1,950 bushels of shelled corn into a 50-ton capacity car.

Cleveland dealers say that unless most favorable weather is had most of the Ohio oat crop will have to be kiln-dried, being now too damp to grade above 3 yellow.

OBITUARY

W. B. Forsyth, a grain commission merchant in Chicago, Ill., died on December 26.

William Pratt, grain merchant at Greenfield, Ind., died on December 25 of consumption.

Ralph G. Risser, president of R. G. & C. H. Risser Co., grain, Kankakee, Ill., is dead.

William A. Charpie, the richest grain merchant at Goshen, Ind., died on January 2 of heart disease.

Andrew J. Stowell, a stock and grain buyer, was killed at Garden Plain, Ill., by a train, on January 4.

George H. Hulbert, a well-known operator on the Chicago Board of Trade, died on January 7, aged 61 years.

Jackson A. Neal, aged 56, formerly a well-known grain dealer of Indiana, died at Peru, Ind., on December 31.

Philip D. Handwork, a well-known grain merchant of Coatesville, Pa., dropped dead at his home on January 3.

Norman C. Randall, a former grain merchant, died at his home at Ashton, Ill., on December 28, after a prolonged illness. He was 74 years old.

George Tolton, aged 75, who for many years was grain buyer for the Goldie Malting Co. at Guelph, Ont., dropped dead on December 16 from heart disease.

Otto Larson, employed in the Farmers' Elevator at Reynolds, N. D., was found dead in the engine room of the elevator on December 11. Death was presumably due to heart failure.

Mayor Lewis Spelts, of David City, Neb., president of the Spelts Grain Co., died at his home on December 12. Mr. Spelts was serving his second term as mayor of David City. He was 62 years old.

Anton Schmitz, one of the pioneer residents of Fond du Lac, Wis., and for over twenty years engaged in the grain business, died in his home at Malone, Wis., on December 29, after a year's illness.

W. G. Nickels, a member of the Minneapolis Chamber of Commerce, was among those who lost their lives in the fire which damaged the West Hotel at Minneapolis on January 10. Mr. Nickels was suffocated in his room.

George S. Himrod, who for many years was engaged in the grain business in Lodi and Geneva, N. Y., died at Brooklyn, N. Y., on November 22, aged 66 years. Mr. Himrod amassed a fortune in the grain business at one time, but subsequently lost it.

William S. Westcott, who for forty years had been engaged in the grain business at Amherst, Mass., died on December 10 at his home in Amherst. Mr. Westcott was 70 years old and located at Amherst on the outbreak of the Civil War. He is survived by his wife and one brother, R. J. D. Westcott of Chicopee, Mass.

Albert McCollister, one of the oldest grain dealers in the country, died at the home of his granddaughter, Mrs. L. E. Lackland, in Chenoa, N. Y., on December 17. Mr. McCollister was 86 years of age and for thirty-two years of his life had been a United States postmaster. He was born in Ross County, Ohio, in May, 1819.

Lewis B. Mitchell, for many years a member of the Chicago Board of Trade, died December 16. He was aid-de-camp on the staff of General John A. Logan during the Civil War. He entered the war as a member of the old Battery A, Illinois Artillery, and at the close of the war had reached the rank of major. He was 64 years old.

George A. Weiss, former president of the G. A. Weiss Malting & Elevator Co. and the American Brewing Co., Chicago, Ill., died on December 10 at his home in Chicago from an attack of heart disease. Mr. Weiss was born in Frankenthal, Bavaria, in 1852, and came to this country in 1875, when he started the G. A. Weiss Malting & Elevator Co.

Ira S. Younglove, an old member of the Chicago Board of Trade, died December 29 at Ypsilanti, Mich. He was born in Vermont and came to Chicago in 1861. He was a partner in the old firm of A. E. Kent & Co. in the early '70's, and in 1875 became a member of the Chicago Packing & Provision Co. From 1894 to 1900 he was identified with the Santa Fe Elevator & Dock Co. Since the latter date he had not been actively engaged in business, but was a familiar figure on 'Change. He is survived by the widow, two sons, Ira S. Younglove Jr. and Roy S. Younglove,

and a daughter, Miss Bessie K. Younglove. The remains were brought to Chicago for interment in Graceland Cemetery.

William Prentiss Andrus, president of the International Seed Co., Rochester, N. Y., died on January 2 after a lingering complicated illness. Mr. Andrus went to Rochester in 1879, where he established a seed business which afterwards developed into the International Co. He was a native of Stoughton, Wis., where he was born in 1840.

John C. McCoy, one of the best known live stock dealers in the West, passed away at his home in Kansas City, Mo., on December 11. Mr. McCoy was 52 years old and from 1874 to 1887 was engaged in the grain commission business in his native city. In 1887 he organized the McCoy-Rogers Live Stock Commission Co. The cause of his death was typhoid fever complicated by heart trouble.

Albert H. Farnum, a member of the grain firm of Bartlett, Frazier & Carrington, Chicago, Ill., succumbed to pneumonia, complicated by heart trouble, at his apartments in the Hotel Metropole on January 2. Mr. Farnum had been a member of the Chicago Board of Trade for nineteen years. He came to Chicago from Boston in 1886 and became a member of the grain house of Baldwin, Wrenn & Farnum, later known as Baldwin, Farnum & Co.

Charles A. Chapin, one of the most widely known members of the Chamber of Commerce of Milwaukee, Wis., and president of the Flint Mill Co., died on January 2 at a sanitarium at Waukesha, Wis. The cause of his death was a paralytic stroke. Mr. Chapin was born in Oneida County, New York, in 1841, and was a veteran of the Civil War. He went to Milwaukee in 1868 and took up the milling business, organizing the Flint Mill Co., of which he was president to the time of his death.

William H. Payne, head of William H. Payne & Son, New York, N. Y., grain merchants and millers, and one of the oldest members of the Produce Exchange, died at his home in New York on December 28. Mr. Payne was 72 years old and was born in England. He came to this country when he was 18 years old and in 1861 started the business which bears his name. He built the second grain elevator in New York and conducted one of the largest milling businesses in the city. He leaves three daughters and one son, C. L. Payne, who conducts the milling business.

Frank P. Neal, a well-known grain man of Lincoln, Neb., aged fifty-four years, died suddenly on December 22, at the Bostwick Hotel, Hastings, Neb. Empyema of the gall bladder is the attributed cause, although his illness was of brief duration, terminating in death in less than twenty-four hours after the acute attack. He was traveling in the interest of the Thomas Cochrane Grain Company of St. Louis. Mr. Neal was a native of Cortland, N. Y., where his mother still lives. He was a resident of Nebraska since 1880, living first at Edgar and then removing to Lincoln, where he dealt in grain for a good many years. The body was first taken to Lincoln, where the funeral was held, at the residence of his brother, Chas. T. Neal, after which the remains were taken to Cortland for burial. The news of Mr. Neal's death was a great shock to his many friends in the grain trade of Lincoln and the state of Nebraska. He was unmarried.

The Montreal Grain Elevating Co. has advanced its charges $\frac{1}{8}$ cent per bushel, netting the company about \$25,000 a year.



Armour threw Wheat at the Bulls and Bears yesterday and to-day.

At least it's so reported, but you can't always rely on reports.

The bears and bulls may be jumping for this Wheat soon; who knows?—Zahm's Letter.

TRANSPORTATION

The contract has been let for the construction of the connecting link between the Wabash Railroad and the Union Railroad at Pittsburg, Pa.

The Kansas State Board of Railroad Commissioners have ordered a reduction of 5 per cent in all classifications of grain. The order affects every railway in the state.

Elevators are being built all along the line of the Ashland cut-off of the Great Northern-Burlington railroads, and the grain movement is expected to be heavy throughout the winter.

The railroads have come to an understanding to make the rate on corn from Kansas City and Omaha to Baltimore $2\frac{1}{2}$ cents per 100 pounds. The rate from Kansas City to gulf ports after January 1 will be 1 cent less than from Omaha.

The Southeastern Mississippi Valley Traffic Association has readjusted the rates from Ohio and Mississippi River crossings to Selma and Montgomery, Ala. The change will go into effect from February 1 and is most sweeping in its effects. Practically every article of the original complaint has been granted.

Grain vessels sailing from southern ports are engaged to their full capacity up to the latter end of March. This will tend to prevent a rate war on grain, as grain taken south must be stored in elevators or held in cars until it is possible to load into boats. Consequently, roads will not make an effort to move it in that direction, as it would be liable to tie up equipment.

Executive officers of western roads are considering the appeal of Chicago grain shippers that they be allowed transit privileges at Chicago on corn from the Missouri River and beyond to the seaboard. Chicago shippers claim that, under existing circumstances, corn from Missouri River territory can be shipped from St. Louis to New York at \$15 a car less than via Chicago.

The C. & N. W. Ry. Co. has announced a new proportional rate for export to New Orleans in connection with the I. C. R. R. of 18 cents per hundred on corn from Omaha to cover business originating west of the Missouri River. From Iowa points the new basis to New Orleans for export will be about 10 cents over current rates to Chicago. Under this arrangement the grain will be routed via Dixon, Ill.

The grain shippers of Washington are complaining that the rate on grain is too high and that wheat and other grain products are not handled by the railway companies on a satisfactory basis in the matter of transfer. The legislature of 1897 passed a law providing for a maximum grain rate of $19\frac{1}{4}$ cents. Attorney-General John D. Atkinson has rendered an opinion that this law was repealed by the act creating a railway commission and that there is no maximum rate in force at present. H. A. Fairchild, chairman of the State Railway Commission, says the matter will be taken up at the next meeting of the board in Olympia, which takes place at an early date.

Shippers of wheat in Palouse County, Washington, are preparing a complaint to the Railroad Commission on the lack of a joint rate on wheat. The difference in favor of the Puget Sound market is declared by these shippers to be greater this year than ever before. Quotations run from 2 to 6 cents per bushel in favor of the Puget Sound market and these quotations obtain in competitive points. It is said that many wheat producers who ship from competitive points and who have heretofore secured the same prices on the O. R. & N. tracks as on the Northern Pacific deposited their wheat on the O. R. & N. road, not knowing that they would receive from 2 to 6 cents per bushel less than on the Northern Pacific.

MINNEAPOLIS DEMURRAGE AGREEMENT.

The Chamber of Commerce of Minneapolis and the Terminal Dispatch Association of that city have perfected a reciprocal demurrage agreement, which has been in force and effect since January 1, and which will remain in force until changed by a two-thirds vote of a joint committee consisting of not less than six representatives of the Chamber of Commerce and an equal number, but not less than six, representing the Terminal Dispatch Association. It is agreed that, when points arise as to car service charges not covered by these rules, the regulations of the Terminal Dispatch Association previously in force are to govern. The new rules follow:

1. On all grain or seed received on or before

8:30 a. m. disposition shall be given not later than 4 p. m. the same day, provided inspection is reported to office of the chief grain inspector before 11 a. m.

2. When reinspection is called before disposition is furnished, as above, one additional day of free time will be allowed, provided the local agent is notified of the call for reinspection on the day car is inspected and a change of grade is allowed by the state inspector or appeal board. If no change in grade is allowed, car service will be assessed, providing disposition is not furnished before 5 p. m. of the day car is first inspected, except that when appeal is taken and reinspection is changed one additional day free time shall be allowed, making two days of free time in all.

3. On cars for delivery at mills or elevators, 48 hours free time will be allowed from time cars are set for delivery, excepting that on wheat for the mills time will be figured from 7 a. m. the following day, if delivery to lines on which mill is located is made after 3 p. m. No additional free time will be allowed for reinspection or appeal. Delivery will be considered accomplished when cars have been placed upon tracks designated or upon storage tracks when delivery tracks are full of cars to be loaded or unloaded by consignee. Delivery to Minneapolis Western, Minneapolis Eastern or Railway Transfer railways to be considered as delivery to industries thereon.

4. Cars ordered to an elevator or mill and "run through" without unloading except on account of reinspection or appeal being called, of which immediate notice shall be given to agent of delivering line, will be subject to a charge of \$2 per car in addition to usual car service and switching charges.

5. On cars loaded out of elevators and inspected (if for inspection) up to 6 p. m., disposition shall be furnished not later than 4 p. m. the following day, except that where reinspection or appeal is called and the grade is changed by the state inspector or appeal board one additional day of free time shall be allowed.

6. Car service charges collected under the above rules will be charged at the rate of \$1 per car per day or fraction thereof.

7. All car service charges accruing before cars are finally disposed of will be paid by the party last filing disposition order with the Terminal Dispatch Association or local agent.

8. A joint committee will be established for the purpose of deciding disagreements between receivers, or between receivers and shippers, or between receivers and shippers and the railway companies. The decisions of the joint committee will be binding in all cases.

9. The joint committee will be composed of seven members—three chosen by the Chamber of Commerce, three by the Terminal Dispatch Association, and the seventh by the above six. Five members of said committee will constitute a quorum, but there must be an equal representation in person or by representative of the railway companies and the Chamber of Commerce in all disagreements between consignees and consignors and the railway companies.

10. Car service bills shall be paid within 48 hours after presentation. Errors in car service bills shall be brought immediately to the attention of the manager of the Terminal Dispatch Association. Should disagreement arise as to correctness of such bills, matter will be referred to the joint committee for decision. Bills for car service charges shall be rendered within two days following release of cars. The railway companies shall give notice of car service charges accruing the first day after free time; failure to give such notice, however, shall not relieve receivers or shippers of the payment of car service charges.

11. Questions involving abuse of equipment, unnecessary delays in switching, methods or practices of either party hereto, causing detention of cars, may be referred to the joint committee for consideration and action.

12. The jurisdiction of the joint committee will cover all commodities handled by members of the Chamber of Commerce.

13. Refunds due under decisions of the joint committee will be made promptly and not later than three days after such decisions are rendered.

14. The members of the joint committee will serve for one year, or until their successors are appointed. They are empowered to adopt rules governing their meetings, to select a secretary and place of meeting, and to assume on behalf of the Chamber of Commerce and Terminal Dispatch Association such expenses as may be necessary.

15. This agreement may be terminated by the railway companies or the Chamber of Commerce parties hereto, upon thirty days' written notice to the chairman of the joint committee.

Connecticut's cereal yields in 1905 were about \$1,200,000 worth of corn, \$180,000 worth of rye, \$150,000 worth of oats and \$65,000 worth of buckwheat.

THE CO-OPERATIVES

The farmers' elevator at Monroe, S. D., has been bought by C. W. Thompson.

The Steck Company succeeds the Farmers' Elevator Co. at Fairbanks, Ill.

The Farmers' Union Elevator Co. at Kandiyohi, Minn., will increase its capital stock to get working capital.

The Farmers' Elevator Company at Spiritwood, N. D., has been declared bankrupt, and its elevator sold under mortgage sale of \$5,600. The liabilities are between \$11,000 and \$12,000.

The Farmers' Grain and Live Stock Co. at McCool Junction, Neb., has voted to discontinue business, owing to a row among the shareholders. Its secretary-treasurer says it has made a profit of 14½ per cent.

The Farmers' Advocate, Topeka, names thirteen co-operative companies as all that were organized or built elevators in Kansas during the year 1905, the towns being Pawnee, Inman, Spring Hill, Saxaman, Blakeman, Belpre, Atwood, Herndon, Sylvan Grove, Bennington, Mound Ridge, Ouida, Larned.

Henry Feig, state superintendent of country elevators in Minnesota, reports that on June 1, 1904, there were 95 farmers' elevators in the state; on December 1, 1905, there were 141. There are 1,745 country elevators in Minnesota, of which 1,220 are line houses, 384 independent and 141 farmers' elevators.

The third annual meeting of the Farmers' Co-operative Grain and Live Stock Association will be held at Lincoln, Neb., on January 17-19, at the Lindell Hotel. C. Vincent, promoter of co-operatives and farm paper publisher; James Butler, ditto, and the now locally famous Tom Worrall, are on the program for papers.

"The farmers' companies at Tuscola and Windsor, Ill., known as the Tuscola Grain and Elevator Co. and the Windsor Grain Co., have been recognized as regular dealers." This statement, published in this column last month, is incorrect and misleading, the facts being, the Tuscola Farmers' Company, after losing \$18,000, was sold out to private individuals, who are operating it as a regular house under the name quoted; while the Farmers' Co. at Windsor, also proving a failure, was likewise sold to private individuals, who are operating regularly as the Windsor Grain Co.

CO-OPERATIVE GRANARIES IN GERMANY.

The establishment of co-operative warehouses for the storage and sale of grain in Germany has been referred to in previous numbers of this journal, and although the development of co-operation on these lines has not been very rapid, it appears to be making steady progress, and warehouses for this purpose now exist in the principal German states.

The question of constructing these granaries, it may be remembered, first became prominent in 1895. In 1896, the Prussian government granted a subsidy of \$730,000 to be devoted to this purpose, and in 1897 a second sum of \$490,000 was placed at the disposal of the government. The idea seems to have been to endeavor to obtain for the growers, particularly the peasants and smaller proprietors, a more direct trade with the consumers. It was represented that owing to the lack of such granaries the growers were often compelled to sell their corn immediately after harvest at unfavorable rates instead of being able to wait for better prices. On the other hand, it was urged that such associations had not proved successful in speculative transactions; and that if they confined their operations merely to the storage of each member's grain it was doubtful whether the profit would balance the cost of erecting the storehouses.

In 1903, there were in Prussia 36 warehouses erected with the aid of the funds mentioned above, and of these particulars were available in regard to 32. The number of members belonging to these 32 societies was 8,915, and the capacity for storage 47,600 tons. The quantity of grain of all kinds dealt with during the season was 2,195,000 cwt., or about 68,800 cwt. each.

The sale of the grain is not always on a co-operative basis, as some of the granaries buy and sell grain on their own account. This brings into their operations a certain element of speculation, and in times of fluctuating prices may lead to financial difficulties. It seems, however, that this system is largely adopted. The grain is also sold on commission, subject to a charge for warehous-

ing. A third method is that of co-operative sale. By this system the members undertake to deliver their whole crop as it is thrashed, and they receive on account about 75 per cent of the current price. The society sells the grain to the best advantage according to its judgment. At the end of the season the average price obtained for each quality, of which there are generally three, is ascertained, and the members then receive the difference between this price and what they have already received after a deduction for cost of warehousing and for the expenses of the society. The members thus participate equally in the returns and obtain the average price for the year.

An essential part of the business is the facility afforded for drying and cleaning the corn, as all the warehouses are provided with machinery for this purpose. Generally the results obtained by the cleaning of the grain have been favorable, but in some cases it is stated that the cost of cleaning wet grain is not covered by the improved value.

On the whole, according to an official report recently published, there was a nearly unanimous opinion on the part of the managers of these corn houses that in the districts provided with them the small proprietor who takes his grain to market in small quantities obtains a larger share of his produce than formerly, and that the difference in price previously existing between the larger markets and smaller places and railway stations has sensibly diminished. Out of the 32 warehouses, 16 made a profit on the year's working and 13 a loss, while in the case of three their receipts and expenditure balanced one another. The reserve funds increased during the year from \$60,000 to \$85,000. The lack of success from a financial point of view, where it occurred, is attributed to a variety of reasons, among which may be mentioned the fact that in some warehouses there is no obligation on the members to deliver the whole of the grain grown by them. It is noted that better financial results seemed to be obtained in those cases where the assistance afforded by the state was the least, and the responsibility of the society correspondingly greater.

The societies by whom these granaries are managed are all affiliated to some central union, and their work is centralized in the permanent German Cornhouse Commission. Conferences are also held, at which subjects connected with their construction, mechanical installation and management are discussed.

The question of how far these associations have justified expectations seems, however, to be a matter of opinion. In a recent foreign office report, dated June 13, 1904, Mr. Consul-General Oppenheimer observed that "the corn houses were intended to afford the farmers the opportunity of storing their grain in a rational way against advances in cash until the time for profitable sales might have come. Several of these unions publish very unfavorable balance sheets; the Pomeranian Union closes its accounts with a loss of more than \$50,000, with a reserve fund amounting to only \$50,000; the Pyritz Agricultural Union closes with a loss of \$13,000, with very considerable outstanding liabilities, and several others are in an equally precarious condition. The prohibition of time bargains in grain and mill products undoubtedly indirectly contributed to these disappointing results, for the unions were deprived of any possibility of protecting their stores against losses by sales for future delivery."

At the same time, however, as was pointed out above, they have succeeded, in the opinion of their promoters, in enabling agriculturists to sell their grain under better conditions than when they had to deal with merchants alone, and at the third German corn house meeting a resolution was passed pledging the meeting to replace the corn exchanges in Germany by an effective organization and practical system of corn houses. Mr. Oppenheimer observes, however, in regard to this resolution, that "past experience hardly justifies any great hopes in that direction."

Included in the 36 granaries referred to above is the experimental elevator or grain warehouse at Berlin, which receives a grant of \$2,500 per annum. The objects of this experimental station are to undertake: (1) Experiments with silos and open floors, with a view to ascertaining the cost of warehousing and dealing with the grain; (2) experiments with new apparatus for transport, loading and unloading, movement in the warehouse, cleaning, separating, storing, drying, etc.; (3) investigation of the changes produced in grain by storage, of the conditions producing heating in bulk, of the effect of the handling on the use of grain for fodder, for malt, etc.; (4) the working out of methods for judging and valuing grain rapidly, and for ascertaining the water content; and (5) experiments for the eradication of insect and fungoid pests.

In order to provide material for observations on these lines and also to enable the warehouse to be self-supporting, the ordinary business of storing, cleaning, drying, etc., is carried on as a commercial

undertaking. The total capacity of the warehouse is 1,100 tons.

There are also in Prussia nine societies which have been founded independently and have not participated in the state grants. Among these may be mentioned the corn house of Dortmund, which obtained a loan of \$30,000 from the town authorities. The capacity of this granary is some 50,000 cwt., and the quantity of grain dealt with annually about four times as much. It has affiliated to it twenty-four local societies.

In Bavaria co-operation in all branches of agriculture has, owing to the great number of small proprietors, been more fully developed than in other parts of Germany, and the corn house movement seems to have been more successful and to be more widely spread than in Prussia.

There were, according to a report published by the Bavarian ministry of agriculture, no less than 97 warehouses in existence up to the end of November, 1903, and nine additional ones were under construction, compared with only 19 in 1897. These warehouses, however, vary much in size. Some are provided with machines for cleaning, distributing, etc., driven by electricity or oil motors, while the smaller ones comprise only a hired shed or room with a cleaner, winnower and weighing machine. The total cost of building, etc., was \$460,000, toward which the government had assisted by grants to the extent of \$38,150, and by loans to the extent of \$142,100. The quantity of grain dealt with amounted to nearly 900,000 cwt. in 1902-03. Seventy of the granaries were on the railway, mostly with sidings or approaches, and, with the exception of eight, the advantages of the granaries were open to non-members. This is not always the case in Prussia, and the lack of success obtained by some of the granaries in that country was attributed to the limitation of the business to members only. The warehouses may purchase grain at a fixed price and sell it at their own risk, or they may act merely as agents for the sale. The charge for cleaning, based on the weight of dressed corn, or sometimes on the time occupied, varies from rather over 1 cent to 7 cents per cwt. With regard to the financial result, 57 of them were reported as showing a profit and eight a loss, while a number were stated to be worked without profit or loss.

The sales through the warehouses are stated to have resulted nearly everywhere in higher prices being obtained than in the open market. The difference in 1901-02 amounted to as much as 24 cents per cwt., and in 1902-03 very frequently to 12 cents per cwt. In the latter year, out of 70 warehouses, 61 reported that they obtained higher prices through co-operative sale, while in the case of the remaining nine the prices were about the same. Moreover, in consequence of the competition, the dealers were compelled to adjust their prices, so that the agriculturists of the district all participated in the benefit. The cleaning of the grain in the warehouses contributed materially to the favorable results obtained. At the same time, there are complaints of a lack of a proper sense of co-operation, which leads some farmers to send to the warehouses only inferior grain which they are unable to dispose of elsewhere.

Government assistance in the construction of granaries is only afforded when it is considered that they are likely to meet an actual need, and the supporters of the enterprise have to provide a guarantee, and submit plans, etc., to the Granary Commission of the Bavarian Council of Agriculture.

The construction of these co-operative granaries close to the railways has been encouraged by the government by the free grant of building land and by affording facilities for the construction of railway sidings. By a decree of July 23, 1898, where alterations become necessary at railway stations to meet the requirements of co-operative granaries, the expenses of such alterations are to be borne by the state railways up to a limit of \$2,500 at each place. The co-operative society by whom the granary is built have to construct the necessary roads or means of access to the railway line, if any, exclusively employed by them, but not to bear the cost of the necessary superstructure. From 1898 to 1903, out of 50 granaries belonging to co-operative agricultural societies, 41 are situated on railway land which has been granted free of rent.

Purchases from these granaries are largely made by the state departments, as well as by large breweries, millers, etc.

The co-operative sale of grain has also been attempted in Wurttemburg, and in 1900-1901 there were 24 local societies for this purpose, most of which have received small grants from the state. Three of them have built grain warehouses, but most, if not all, of the remaining societies have limited themselves to procuring cleaning machines, supplying sacks, etc., and have made use of any available accommodation in the neighborhood as a center for the collection and cleaning of the grain. —The Journal of the British Board of Agriculture, November, 1904.

CROP REPORTS

Reports from a number of counties in Oklahoma are to the effect that the wheat crop is in excellent condition, the result of timely rains.

The Iowa state report on corn estimates the crop at 345,800,000 bushels. The oat crop is placed at 146,000,000 bushels and wheat at 6,400,000 bushels.

The Ohio state report says that the condition of corn in the crib is 95 per cent compared with an average. The condition of corn in the shock is 89, and 9 per cent of the crop is still unhusked.

Although a larger acreage of winter wheat than usual was sown in western New York this fall, the lack of snow has caused considerable damage, the plant being injured by freezing and thawing.

Emmett Hoffman, a prominent miller of Enterprise, Kan., believes that the present snowfall in the western part of the state has supplied enough moisture to give the plant what it needs until May.

The Minneapolis Market Record has received replies to 1,900 letters to millers and grain dealers in the Dakotas and Minnesota, asking for figures on crop yields of all the grain crops, with the percentage of good milling wheat. The figures show an average yield in Minnesota of 13.5 bushels, South Dakota 12.9 and North Dakota 15.6 bushels, and using the Agricultural Department's acreage figures, the total crop is: Minnesota, 73,523,000 bushels; South Dakota, 41,555,000 bushels, and North Dakota 77,661,000 bushels, or a total of 192,000,000.

Secretary Coburn of the Kansas Department of Agriculture states that correspondents report about 5,900,000 acres sown to fall wheat, an increase of 64,763 acres over a year ago. Of the past season's corn crop he says: "The corn crop amounts to 190,519,593 bushels, the largest since 1902, and 58,500,000 bushels more than that of 1904; its value is \$68,718,584, which, with one exception, is the most valuable corn crop produced in the state. The corn, by more than \$1,000,000, out-values that of the year's wheat, oats, rye, buckwheat, broomcorn, flax and Irish and sweet potatoes combined."

Broomhall estimates the world's oat crop in quarters (304 pounds) as follows:

	1905.	1904.	1903.
Algeria.....	700,000	735,000	400,000
Austria-Hungary.....	19,600,000	18,600,000	22,300,000
Belgium.....	2,900,000	3,500,000	4,000,000
Bulgaria.....	1,200,000	800,000	1,100,000
Canada.....	19,500,000	17,900,000	20,200,000
Denmark.....	5,000,000	4,000,000	5,000,000
France.....	33,870,000	30,640,000	33,500,000
Germany.....	48,000,000	50,300,000	56,100,000
Holland.....	2,700,000	2,800,000	1,900,000
Italy.....	2,500,000	2,300,000	2,000,000
Roumania.....	2,300,000	1,500,000	3,800,000
*Russia.....	80,000,000	118,580,000	84,000,000
Sweden.....	7,500,000	6,070,0,0	7,700,000
United Kingdom.....	21,000,000	22,100,000	21,500,000
United States.....	98,000,000	94,170,000	95,000,000
Total.....	341,770,000	373,995,000	355,500,000

*Seventy-two governments.

Thornton, of the Duluth Commercial Record, gives some figures on Northwestern wheat distribution to January 1. He says receipts of spring wheat, including durum, at Duluth and Minneapolis to that date amount to 80,000,000 bushels. Country mills have ground 35,000,000 bushels aside from what was shipped them from Minneapolis. Country elevators had in store at that time about 25,000,000 bushels, making the total of farmers' marketing 140,000,000 bushels. Taking his own figures on the crop, 212,000,000 bushels, Mr. Thornton figures farmers still have 72,000,000 bushels, 34 per cent of the crop, on hand. He figures that seed will require 20,000,000 bushels, leaving 52,000,000 bushels available for marketing, and with the 25,000,000 in country elevators and 15,000,000 at terminals, there is a total supply of 92,000,000 bushels available for ensuing eight months' consumption.

Jones and Inglis jointly analyze the government's final estimate of a 694,000,000-bushel wheat crop as follows: "State results indicate not above 615,000,000 bushels, and more conservative opinion suggests 600,000,000 bushels. In our judgment the government makes two important errors. They report the yield by measure, when by applying their weight figures their yield of 694,000,000 bushels should be reduced on winter wheat 12,000,000 bushels and on spring 16,000,000 bushels, bringing the total down to 664,000,000 bushels. We estimate an overestimate of winter acreage by the government of 1,500,000 acres and of spring 1,000,000 acres. This calls for a further reduction of winter of 21,000,000 bushels and of spring 12,000,000 bushels, a total of 33,000,000 bushels, which reduces the government's figures to 631,000,000 bushels. On the basis of 615,000,000 bushels, and

not to exceed 50,000,000 bushels brought over July 1, the country has 75,000,000 bushels for export to July 1."

From 1,100 replies to inquiries sent to all the oats raising states, George H. Phillips of Chicago estimates that stocks, including the visible supply, are only 13 per cent of the total yield of last year, that farm reserves are about 30 per cent of the total crop, and, therefore, that 57 per cent of the oats raised have been consumed or exported. In arriving at this statement, consumption in all large cities of the country has been obtained as accurately as possible.

The world's supply of breadstuffs, as compiled by B. Frank Howard of the Daily Trade Bulletin, shows that the increase during December equaled 4,054,000 bushels, compared with an increase of 31,176,000 bushels during November and a decrease of 12,095,000 bushels during December, 1904. The compilation shows the supplies of breadstuffs afloat for Europe and in store in Europe, America, Argentina and Australia on the dates named:

	Jan. 1, 1906.	Dec. 1, 1905.	Jan. 1, 1905.
	Bushels.	Bushels.	Bushels.
Afloat for Europe.....	29,230,000	34,410,000	33,180,000
In store in:			
Europe.....	53,620,000	49,440,000	57,060,000
Argentina.....	1,104,000	1,872,000	1,176,000
Australia.....	200,000	330,000	1,710,000
America.....	121,755,000	115,803,000	97,800,000
Total.....	205,909,000	201,855,000	190,926,000

The weather bureau's monthly summary of crop conditions, issued on January 3, is as follows: In the southern states the month was much colder than usual, with excessive precipitation, and was generally unfavorable for farming operations. Over the middle and southern plateau regions the month was abnormally cold, with less than the usual precipitation in these districts and also throughout the Pacific Coast states. As a whole the weather conditions were mild and favorable to agricultural interests throughout the northern portions of the country from the Atlantic to the Pacific. While the winter wheat region, for the most part, was without snow protection, winter wheat has suffered very little from the effects of alternate freezing and thawing and generally is in satisfactory condition. On the Pacific Coast, however, winter wheat, while generally in good condition in Washington, Oregon and southern California, is more backward than usual.

BUFFALO'S CONGESTION.

Testifying before the New York Railroad Commission on the necessity of constructing the so-called Buffalo Frontier Terminal Railway, from Bay View to Lake Erie and around the city to Niagara River, Robert W. Chapin, a prominent grain man, speaking of Buffalo's terminal congestion, said in substance:

"It takes five days to get a car around the Belt Line after the order has been given. General congestion occurs every year in December after the close of navigation.

"It was specially bothersome this year. It has been extremely difficult to get cars during the last thirty days. In past years we have suffered heavy losses because of the delay in moving cars in this city. I will point to a recent instance. We had a car loaded for North Collins, which is only about twenty-five miles from Buffalo. That car should have reached there in five hours after it was loaded. It stood on the tracks here ten days before it was moved. Once we had a car held up here for forty days after it was ready to move. I have tried to ascertain the cause of these delays. It seems to me the railroads have more business than they can take care of with their present facilities. There are not enough highways to transport shipments here. The grain congestion in this harbor was such this fall that at one time there were 8,000,000 bushels of grain lying here in boats waiting to be unloaded. One vessel just discharged her cargo a day or two ago after waiting three weeks to get a chance to unload."

Speaking of how grain is shipped, Mr. Chapin said that grain arriving at Buffalo from the West is billed to Philadelphia, but is marked, "Hold at Buffalo." "It is unloaded here, weighed, etc. The railroads do this so as to build up this city," said he.

Mr. Chapin further said that the capacity of Buffalo's elevators is not as great as is popularly supposed. "I do not imagine that the aggregate capacity of the elevators of this port is more than 18,000,000 bushels."

A prominent farmer on the Rappahannock River, below Fredericksburg, Va., recently privately consigned a shipment of 20,000 barrels of corn to Liverpool, England.

New Orleans in December exported 140,000 bushels of wheat (all to Continent), 3,512,019 bushels of corn, 70,829 bushels of oats and 100,000 bushels of barley (to Bristol).

FIRES-CASUALTIES

A large elevator belonging to the Union County Milling Co. of Anna, Ill., was totally destroyed by fire on December 31.

The elevator plant of the Ernest Darby Elevator Co. at Seneca, Md., was totally destroyed by fire on December 14.

Fire destroyed the grain warehouse and office of N. F. Mayo, Saugus, Mass., on December 22. The estimated loss is \$3,000.

The Union Mill & Feed Co.'s premises at Birmingham, Ala., were destroyed by fire on December 15. The buildings and machinery were uninsured.

The J. W. Skughler Elevator at Elk Point, S. D., was destroyed by fire on January 4. This was the first elevator to be built in Dakota. It was erected in 1876.

A fire at Altamont, Kan., on December 19 destroyed the elevator of J. H. Rust. The loss on the building and grain was \$15,000; insurance, \$10,000.

A fast meat train jumped the tracks at Panama, Iowa, on December 9, and dashing into the E. G. Miller Elevator completely wrecked that building.

A fire which broke out in the Atlas Elevator at Hills, Minn., on December 12 was quickly got under control by the local fire department by means of chemicals.

An elevator at Lime Springs, Iowa, was destroyed by fire on Christmas Day. The building had been bought at sheriff's sale but a few days before by F. M. Clark.

The L. L. Coryell Elevator at Julian, Neb., gave way on December 19 under the pressure of the corn in storage. Thousands of bushels of corn were poured on the ground.

N. S. Amsden, superintendent of the Minneapolis and Northern Elevator Co., was seriously injured in the fire which partially destroyed the West Hotel at Minneapolis on January 10.

The elevator at Davidson, Minn., was burned to the ground on December 5 and 1,000 bushels of flax consumed. W. J. Porter, the manager, reports that the company will rebuild in the spring.

The side of an elevator owned by the New Richmond Roller Mills at Hammond, Wis., gave way on December 14, throwing 4,000 bushels of oats and a pile of debris across the railway tracks.

Asa Wright, a young man employed in the St. Anthony & Dakota Elevator at Petersburg, N. D., died on December 13 from the effect of terrible injuries received by being caught in the belt of the machinery.

The elevator of A. Weimer & Co. at Geneseo, Ill., was totally destroyed by fire on Christmas Eve. About \$1,600 worth of grain was lost, which was uninsured. The building carried an insurance of \$2,000.

Incendiary is supposed to have been the cause of a fire which totally destroyed the hay warehouse of the E. L. Rodgers Grain Co., Little Rock, Ark., on December 20. The hay was valued at \$1,000 and insured for \$600.

Julian P. Norton, proprietor of a grain elevator at Clifford, Ind., was seriously injured on December 14 through being caught between a wagon and the crib by the horses suddenly backing. His head was lacerated and the right ear almost torn off.

A spark from a passing engine is supposed to have been the cause of a fire which partially destroyed the elevator at Kasson, Minn., owned by the Western Elevator Co. of Winona. The grain in storage escaped the fire but was seriously damaged by water.

A disastrous fire which is attributed to a hot journal totally destroyed the large elevator of the McMillen Grain Co. and two hay barns at Cavette, Ohio, on December 20. The elevator contained 13,000 bushels of grain and was insured for \$13,580. Mr. McMillen announces that he will rebuild at once.

A fire at Amenia on December 8 destroyed a grain elevator belonging to the Amenia & Sharon Land Co. The loss was estimated at \$110,000, \$100,000 of which was covered by insurance. The fire is presumed to have originated through a heated pulley. The company will rebuild in the spring.

The regents of the Idaho State University have decided to establish an experimental farm in the southern portion of that state. An expert irriga-

tionist will be furnished by the Federal government and special attention will be paid to the problem of conservation of water and to diversified crops. Another farm will be established for experiments in dry farming, the system so successful in western Kansas and eastern Colorado being used.

WHAT HAS PARALYZED SPECULATION?

General public has been indifferent to grain and stocks for several months. Many think the exposure of high finance grafters the cause. It shows they have been running a big bunco game. Ryan says he bought Hyde's stock to avert a panic. There would have been one if life insurance policies were payable upon demand, like deposits in national banks. If he had said he bought the stock to control the money of the Equitable, the public would have believed him. Think of J. P. Morgan taking a gold brick for many millions. It shows how careless Wall Street does business. Tight money there will continue for some weeks. Morgan wants the government to help. Rockefeller interests do not. The financial giants do not always work together. There is no muddy water in grain, but speculation in it has been very small. Public is amazed at the high finance methods.—C. A. King & Co.

Year after year the actual grain trade of Chicago increases, but louder and louder goes up the wail of "no business" from the members of the Board of Trade. There is something lacking and there is something of which there is also too much. For more than fifteen years it now develops that the Board of Trade has been neglecting its opportunities and wasting its facilities for legitimate trade that has a standing to suppress an illegitimate trade that has no facilities and never had any standing whatever. We sit at the table where we feed the world, and instead of carving and helping this great family we are busy driving out poor prowlers, frantic at the idea that they may get a crumb that falls from the table. And so we spend our money, waste our time and permit our faculties to be diverted.

I am limited in space in this article and can now do nothing more than point out the way to sane methods of business that I feel assured a large majority of our members will promptly proceed to adopt or, I might more truly say, retrace their steps to practice. I need not call up all the mistakes we have made. The mere suggestion of a few simple changes will lead every member into a train of thought that will instantly improve the tone of discussion and, when tried, immediately attract and enlarge business on the board. The course before us is plain and direct. We must begin at once to trade for future delivery specifically in No. 1 Northern spring wheat, in No. 2 red winter and in No. 2 hard winter. This will at once become the market of every producer, miller and shipper of either of these varieties of wheat—the market where he may dispose of his product, secure his supplies or hedge his holdings either at home or in transit with an exactness and celerity that no market in the world now affords him an opportunity to do. We must abolish the trade in the mongrel article we now call No. 2 regular wheat, which has never been anything but a deception and a fraud upon either the buyer or the seller, and generally upon both. It has thrown down our grades and thrown our business wholly into the hands of elevator managers who force all prices to a basis that the lowest-priced deliverable variety rules at, and when the ends of these elevator owners or manager are accomplished in this direction they shut down all access to the low-priced variety and rig the market to be governed by a scarce and high-priced variety, and themselves become the only possible sellers of cash wheat in any quantity, and this they work off on sales by sample, every grade of the different varieties being discredited throughout the commercial world. Why should we wonder at the decay of our business? We prepared the funeral sacrifice ourselves and have fed the funeral-baked meats to the first Moloch that came along. I can recall within the past fifteen years but one single trade rule that has been for the betterment of our standing as a commercial body; and that was some three years ago, when the board rose to the occasion and stopped the degrading mixture of different varieties of wheat and took a stand for honest trade.—E. W. Wagner, in Chicago Examiner.

The Rice Association of America, composed of rice growers and millers, at a meeting in December adopted resolutions calling on Congress to provide for putting cereals on the free list of all tariff sheets of this and other countries by reciprocity treaties; and to prevent the manipulation of the rice market by speculators, it was asked that rice from the Philippine Islands be taxed at the same rate as that from British India.

PERSONAL

Paul Marquette is in charge of Craig's elevator at Redfield, S. D., this winter.

J. B. Miller has taken charge of the new McCaul-Webster Elevator at Lyons, Neb.

Viemont Bros. of Mackinaw, Ill., have purchased the grain business of Jacob Steiner & Son.

O. P. Shaw of Scotland, S. D., has been appointed manager of a grain elevator at Parkston, S. D.

E. F. Blair, one of F. Williams' salesmen, New York, N. Y., will shortly be married to Miss Bessie Calkins.

Lincoln Moore has succeeded F. E. Water as manager of the Bartlett, Kuhn & Co. Elevator in Ashmore, Ill.

P. H. Jones has moved from Canterbury, N. H., to Tilton, N. H., where he is interested in the grain business.

C. W. Wilson is superintending a line of elevators along the Winnipeg line, with headquarters at Alexandria, Minn.

Will Griffith of Kenmare, N. D., has gone to Hurd, N. D., where he will take charge of an elevator for the Ireys Co.

Frederick Schweigert, a grain and lumber dealer of Hebron, N. Y., was married to Lydia Ewald at Elkhart, Ind., on December 8.

F. L. Mudge has resigned his position as auditor of the Peavey Elevator Co. at Wakefield, Neb. He is succeeded by B. F. Butler.

A. A. Johnson, a former grain buyer at Worthington, Minn., has gone to Watertown, S. D., where he will have charge of a grain house.

John W. Graban, formerly buyer for Vollkommer & Co., has accepted a position as buyer with Gasteiger & Schaefer of Brooklyn, N. Y.

Jacob Schreiner Jr. will be the wheat pit trader for the new firm of Gardner & Paddleford, Chicago, Ill., when it begins business on February 1.

H. R. Hasvold, who has been traveling for the Milwaukee Elevator Co., has accepted a position in charge of an elevator near La Crosse, Wis.

Max Moore has moved from Ellinwood, Kan., to Great Bend, Kan., where he will undertake the duties of auditor to the Moses Mill and Elevator.

Mr. Tozer has resigned his position as manager of the State Elevator & Lumber Co. at Hutchinson, Minn. Mr. Peterson of New Germany takes his place.

Theo. Jorganson of Colman, S. D., has gone to Forestville, S. D., where he will have charge of an elevator and lumber yard for the McCaul-Webster Co.

Arthur Clum has moved his office from 301 West Thirty-third Street to the Lemp Building, Twenty-sixth Street and Eleventh Avenue, New York, N. Y.

Barney Regennitter has resigned charge of the elevator at Tipton, Iowa, in order to take a position as buyer for the John Dammann Co. at New Liberty, Iowa.

C. A. Newhouse has resigned his position as agent for the Imperial Elevator Co. at Hallock, Minn. He has been succeeded by C. C. Peterson of Hendrum, Minn.

W. H. Williams, traveling collector for the St. Anthony & Dakota Elevator Co., with headquarters at Humboldt, Minn., will resign his position in order to open an advertising bureau in St. Vincent, Minn.

Emil Howe of Redwood Falls, Minn., has gone to Fargo and other North Dakota points to look after the interests of Schmid & Anderson in that state. August Floeter of Springfield, Minn., succeeds him in the elevator.

George Crow, who has been with the Vollmer-Clearwater Co. at Kendrick, Idaho, has been transferred to Kamiah, Idaho, where he takes charge of the warehouse. Roy Osborne, who has been in charge of the mill at Kendrick, has been transferred to the warehouse.

After a lapse of thirty-three years William Whetstone, manager of the grain department of W. E. Hutton & Co., Cincinnati, Ohio, met his brother Thomas, a prosperous farmer near St. Joseph, Mo., last month. The brothers had to be introduced, as they failed to recognize each other.

The strike of grain weighers at Rotterdam is at an end, for the simple reason that German importers will not accept grain weighed by automatic machines. At least, they will wait for six months to see if such things are to be depended upon.

SEEDS

Farmers around Sibley, Iowa, have been complaining of a lack of seed corn.

It is reported that a receiver has been appointed over the Carney Seed Co., Dayton, Ohio.

The Duluth Commercial Record figures that farmers have disposed of 20,000,000 bushels of this year's flax crop.

J. E. Hoopes of Muscatine, Iowa, is building up a successful business in raising and shipping seeds to seed handlers in the different states.

The Forrest Seed Co. of Portland, N. Y., has closed out the grocery branch of its business in order to meet the demands of the rapidly growing seed business.

F. E. Winans, Chicago, says of the seed market January 12: Receipts of timothy seed very moderate. Demand good, and the recent advance in price is well sustained.

The flax crop of North Dakota is reported to be the best for years. The quality is excellent and the yield satisfactory. A shortage of cars on the wheat-carrying roads is seriously interfering with the grain movement.

Frank Lechenby, manager of the seed department of the Chas. H. Lilly Co., left Seattle, Wash., in the last week of December for a business trip through the eastern and middle western states. He purposes visiting all the seed houses on his route.

The receipts of flax at Duluth, Minn., from August 1 to the end of December were 8 1/4 million bushels, and at Minneapolis 6 1/4 million bushels. The crop has been very plentiful, especially in the spring wheat belt of the Northwest, where spring opened early, so that seeding of wheat was out of the way in ample season to give opportunity for seeding all the flax area that was intended.

A. J. Pieters, of the division of botany, United States Department of Agriculture, says that seedsmen defend the practice of mixing high-grade seeds with screenings on the grounds that it is necessary to do so in order to sell at a price that the customer is willing to pay. Mr. Pieters declares that the most frequent adulterant is yellow trefoil, which is largely used to adulterate red clover seed, since the demand for trefoil seed is insignificant.

The Dallas News says that Dallas, Texas, is the largest seed jobbing center in the state, and is one of the largest seed distributing points in the Southwest. More seed, it is said, is sold by Dallas houses than by any four cities in the state combined. The business has increased rapidly. Four years ago the actual business of one seed house amounted to \$60,000. This year the same house turned over \$197,000. The demand for alfalfa is said to be increasing from year to year and more land is continually being placed under cultivation of this plant.

THE SHRINKAGE OF CORN IN THE CRIB.

One of the most complete reports of what is definitely known on the above subject is contained in a recent number of the Industrialist, published at the Experiment Station at Manhattan, Kan. This report is from the pen of Professor Ten Eyck, which we summarize briefly for the general and particular information of our readers.

He notes an experiment conducted in 1891 by Dr. Manley Miles on his own farm, in which the shrinkage of one lot of corn from October to March following was 13.92 per cent, in another lot 16.65 per cent. In the latter case the corn was shelled, the corn and cobs weighed and kept separately, with the result that the average shrinkage of the shelled corn was 7.41 per cent, while the shrinkage of the cobs was 36.78 per cent; 19.84 per cent of the ears shelled in March was cobs.

In October, 1896, the Michigan Experiment Station put a lot of very damp corn in the crib, which on being weighed on February 13 had lost over 30 per cent in weight. In an experiment a year before an amount of corn was placed in the crib in October in fairly dry condition, and showed a shrinkage presumably in the same period of about 11 per cent in weight.

The Iowa station conducted an experiment in 1898, in which 7,000 pounds of corn placed in the crib October 19 showed a shrinkage of 20 per cent in twelve months. This corn lost 9 per cent of its weight in the first three months, 14.4 per cent in six months, and gradually shrank until the next October.

Professor Ten Eyck also reports some experi-

ments at the Kansas station with different varieties of corn. There was a rather remarkable difference in the shrinkage of the different varieties. In one experiment white corn shrank from December, 1903, to August, 1904, 9 per cent; mixed corn, 5.5 per cent; yellow corn, 10 per cent, part of the latter shrinkage perhaps due to mice getting in the crib. This experiment was repeated in 1904 and 1905, when white corn showed a shrinkage of 14.4 per cent from October 26, 1904, to October 7, 1905; yellow corn, 15.3 per cent; mixed corn, 6.8 per cent, or an average of 12 per cent. This experiment is now being repeated with the purpose of discovering what occasions the decrease in weight. Professor Ten Eyck thinks that the shrinkage in weight of corn is not due entirely to loss of moisture, but that there is an actual loss of dry matter.

In speaking of Kansas conditions, which are somewhat different from conditions in Iowa, Minnesota and northern Illinois, he concludes that the dealers in demanding from 75 to 80 pounds per bushel are asking more than is necessary to cover the shrinkage, and suggests that poor shelter and careless methods of storing are items to be considered as well as the natural shrinkage of corn. He also suggests that Kansas farmers can hold their corn without great loss until June or July, when the status of the new crop can be determined; but that it is not usually expedient to hold it later than that in that state and states further south on account of the danger of loss from grain weevil or grain moth.

Professor Ten Eyck also reviews the experiments that have been made to determine the shrinkage of wheat, oats and barley. Without going into details his general conclusion is that the shrinkage of weight in these grains is an entirely negligible quantity; that when small grains are put in the granary in good condition and kept free from vermin, they are quite as likely to increase in weight as to decrease.—Wallace's Farmer.

BREWERS' DRIED GRAINS.

Brewers' grains are the by-product of the brewery steep tank in which the malt is steeped to make the infusion known as the wort. Most of the starch of the malt is removed by this process and what is left in the grains is a portion of the starch and allied substances, together with the hull, germ and gluten of the barley. An average of five samples analyzed by the Massachusetts Agricultural College recently showed 23.10 per cent of protein compared with 16 per cent in wheat bran and 4.90 per cent of fat against 4.60 in bran.

In some places brewers' grains are fed wet, just as they come from the steep tank, as in Massachusetts, where the residue of 40 breweries is practically all sold wet to farmers living in the immediate vicinity, the comparatively small amount of the dried grains consumed in that state coming from the vicinity of New York and Chicago; but the best practice is to feed them dry, as in Europe and in many portions of the United States. European investigators consider freshly dried grains as healthful as untreated barley, oats or corn.

A recent test in Massachusetts to find the food cost of milk and butter showed that while 100 pounds of milk were made from \$1.04 worth of brewers' grains, the same amount of milk cost \$1.09 when made from bran; similarly 100 pounds of butter cost when brewers' grains were fed \$16.55 and \$17 when the bran was fed. The fertilizer value of the brewers' grains was estimated at 5 per cent more than that of bran.

The milk from each of the cows was tested a number of times, and it was not possible to detect any objectionable flavor due to the use of the dried grains; neither did the milk from the brewers' dried grains ration sour any quicker than that from the wheat bran ration. It is believed that fresh brewers' grains that have been dried immediately by modern methods after leaving the steep tank, when fed in moderate quantities, have no bad effect on the character of the milk product.

Edward G. Heeman of Chicago says: "During the first half of the crop year, when the bears certainly had the advantage of very large primary receipts, steady accumulation of supplies and practically no outside speculative support to carry the load, they were unable to make any headway. It certainly indicates a strong foundation. Henceforth everything should favor the bulls, and I believe an average of higher prices for wheat will prevail. Speculation in grain has been dormant for so long that I believe we are on the eve of an upheaval, and that alone will mean a material advance. The growing crop of winter wheat has had no protection thus far and advices are being received that the outlook is very poor. A serious crop scare seems inevitable. Perhaps it is too premature, but many are buying July wheat, believing purchases are not likely to show any loss of consequence any time and could result very profitably. Corn, oats and provisions are also in a

strong position, and I believe will sell considerably higher and not much lower."

LATE PATENTS

Issued on December 12, 1905.

Grain Separator.—Henry H. Meyer, Red Wing, Minn. Filed May 3, 1904. No. 806,821. See cut.

Issued on December 26, 1905.

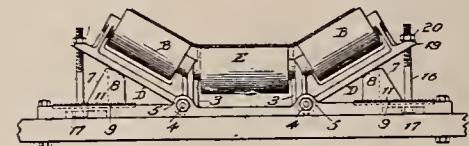
Bag Holder.—John O. Ellison, Haverhill, Mass. Filed April 10, 1905. No. 808,355.

Issued on January 2, 1906.

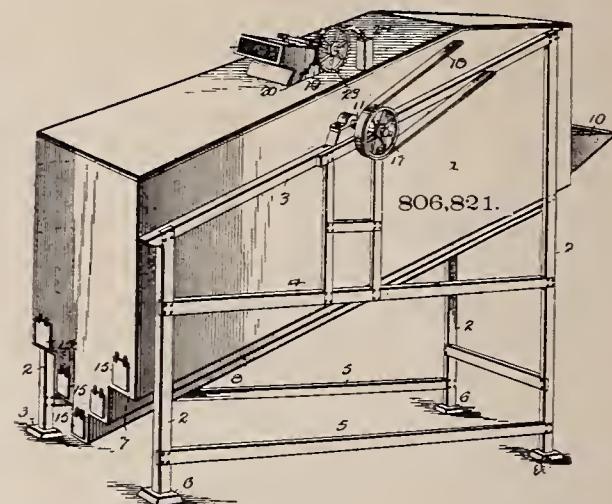
Grain Door for Cars.—Morton G. Donehew, Rus-



806,821.



808,355.



809,227.

sell Township, Putnam County, Ind. Filed July 29, 1905. No. 808,906. See cut.

Conveyor Belt Support.—Archibald W. F. Steckel, Columbus, Ohio, assignor to Joseph A. Jeffrey, Columbus, Ohio. Filed June 20, 1904. No. 809,227. See cut.

For Sale

[Copy for notices under this head should reach us by the 12th of the month to insure insertion in the issue for that month.]

FEED BAGS.

Sewing twine, etc., for sale. Bottom prices.

WILLIAM ROSS & CO., 57 S. Water St., Chicago.

MONEY IN YOUR POCKET.

If you want to change that second-hand machine into money advertise it in this department. Or if you have a grain elevator to sell or rent, or wish to buy, make your wants known through these columns.

ELEVATORS

FOR SALE.

If you are in want of a good elevator, cheap, doing a good business in all lines, call on

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ELEVATOR FOR SALE.

Fifteen-thousand-bushel cribbed house at McLane, Neb. Owner has too much other business. Write

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FOR SALE, RENT OR EXCHANGE.

Good mill and elevator located in fine wheat country. Favorable terms. Address F. S. R., Box 1, care "American Elevator and Grain Trade," Chicago, Ill.

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Two small elevators, 26 acres land and desirable dwelling property in good grain territory in Eastern Indiana. Address

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An elevator in good running order, about 5,000 bushels' capacity. Large retail trade; also No. 1 opening for coal trade. Will sell all or a half interest.

S. BASH & CO., Fort Wayne, Ind.

FOR SALE.

Good elevator, in live Wisconsin town, surrounded by rich farming country; 25,000 bushels' capacity. Might exchange for western land. Address

WESTERN LAND SECURITIES CO., 143 Endicott Arcade, St. Paul, Minn.

FOR SALE.

Old established grain business less than 100 miles from Chicago; 90,000 bushels' capacity. Business, as well as buildings, in first-class condition. Good reasons for selling. Full particulars by addressing

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The Mabbatt Elevator on C. & A. R. R. in Chicago; 1,300,000 bushels capacity in two connecting buildings. Can be operated separately or together. Thoroughly equipped for cleaning and handling all kinds of grain. Track room for 200 cars. Terms to suit. Address

GEORGE A. SEAVERNS JR., owner, 105 Washington St., Chicago.

GRAIN AND SEEDS**WRITE OR TELEGRAPH.**

White Wheat and Utah Alfalfa seed for sale. If in need of either, write or telegraph

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GET OUR PRICES.

Kaffir Corn, Cane Seed, Alfalfa seed and Hard Milling Wheat for sale. Get our prices.

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For Alfalfa, Clover, Timothy, Millet, Sorghum and Kaffir Corn. Car lots. Write for prices.

MISSOURI SEED CO., Kansas City, Mo.

BARGAIN IN VALUES.

Red, White and Alsike Clover Seed at bargain values. Write for samples.

MILWAUKEE PRODUCE CO., 123-125-127 West Water St., Milwaukee, Wis.

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Lambert Gasoline Engine, 20 horsepower, in fine condition. For particulars, address

A. J. MONROE, Arthur, Ill.

FOR SALE.

New 2-horsepower horizontal gasoline engines; electric igniters, \$95 each.

One 20-horsepower Fairbanks-Morse Gasoline Engine in A-1 condition.

Also 2½-horsepower Weber, used only 10 days, \$75.

H. PETTINGER, 22 South Canal St., Chicago.

GASOLINE ENGINES FOR SALE.

3 HP Otto, \$85.	4 HP Colborne	\$ 95.
6 HP Webster, \$175.	8 HP Otto	225.
10 HP Otto with pump attached		400.
12 HP Webster		225.
15 HP White & Middleton		375.
35 HP Otto, \$600.	60 HP Otto	1,200
	COLBORNE MFG. CO., 35 E. Indiana St., Chicago.	

FOR SALE.

Portable dump for sale. Will handle any kind of grain well and quickly. Just the thing for cribbing corn. Address

WOODBURY & FILES, Muncie, Ind.

FOR SALE.

Gasoline engines; one 54-horse Fairbanks-Morse; one 28, one 16, one 12, 2, 8 and 25 horsepower Sterling Charter. All sizes and prices in small sizes.

A. H. McDONALD, 38 W. Randolph St., Chicago.

FOR SALE.

One 15-horsepower electric motor. One 12-horsepower steam engine. One 7-horsepower gasoline engine, also several larger sizes. One 6x4x6 and one 10x7x12 Duplex Steam Pumps. All thoroughly overhauled and at bargains.

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THE STANDARD SCALE & SUPPLY CO., Station U., Chicago, Ill.

Miscellaneous Notices

[Copy for notices under this head should reach us by the 12th of the month to insure insertion in the issue for that month.]

SECOND-HAND BAGS WANTED.

Any kind, any quality, anywhere. I pay freight. Write for prices.

GEO. T. KING, Richmond, Va.

WANTED.

Names of the principal New York exporters and European importers who are buyers of corn and wheat. Address

E. H. LINZEE GRAIN CO., Hobart, Okla.

HAY WANTED.**GOOD HAY.**

Will bring a good price on our market. Send us your next consignment. Our specialty.

ST. LOUIS HAY & GRAIN CO., St. Louis, Mo.

ELEVATORS WANTED**WANTED.**

Elevator or mill and elevator for good improved Illinois or Iowa farm. Address

IOWA, Box 1, care "American Elevator and Grain Trade," Chicago, Ill.

ELEVATOR OR MILL MEN WANTED.

We have on our list several mills and elevators owned by non-residents who want to put them in operation, and we wish to correspond with elevator men, millers, managers, office men, bookkeepers who are interested in good elevator or milling propositions.

IOWA MILL BROKERS, Independence, Iowa.

GRAIN WANTED**WANTED.**

Buckwheat grain wanted. Address

H. H. EMMINGA, Golden, Ill.

GRAIN WANTED.

Wanted—Feed barley and new No. 2 and No. 3 rye.

W. H. SMALL & CO., Evansville, Ind.

THE GRAIN MANS GUIDE
A MAGAZINE**Not a Trade Paper**

We are not endeavoring to cover the same field of matter now covered by other grain trade publications. . . .

Something Entirely Different**A NEW IDEA**

A Prominent Grain Man writes under date of Dec. 11, 1905: "We think your frontispiece 'Harmony' is fine. You are nothing if not original. Some people always copy, but you seem to lead in original ideas."

Grain Mans Guide Co., DECATUR, ILLINOIS

Enter subscription for one year. After receiving three months' sample copies we will do one of two things—either send you \$1.00 for the year's subscription, or write you to stop the magazine, when you are to cancel this subscription and the sample copies are to be free as a test.

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And take contracts either for material alone or job completed. Write us for prices. We can save you money.

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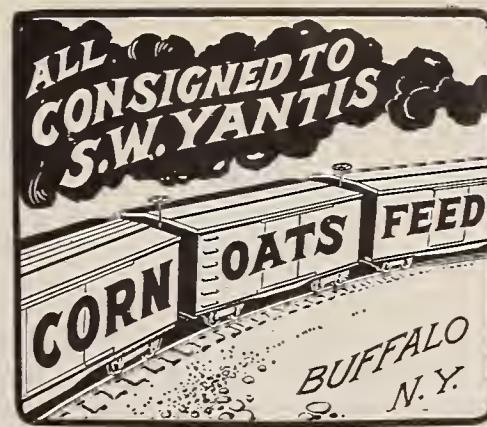
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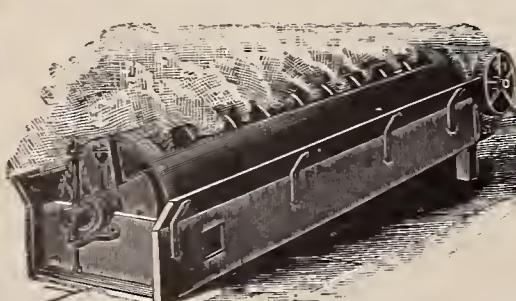
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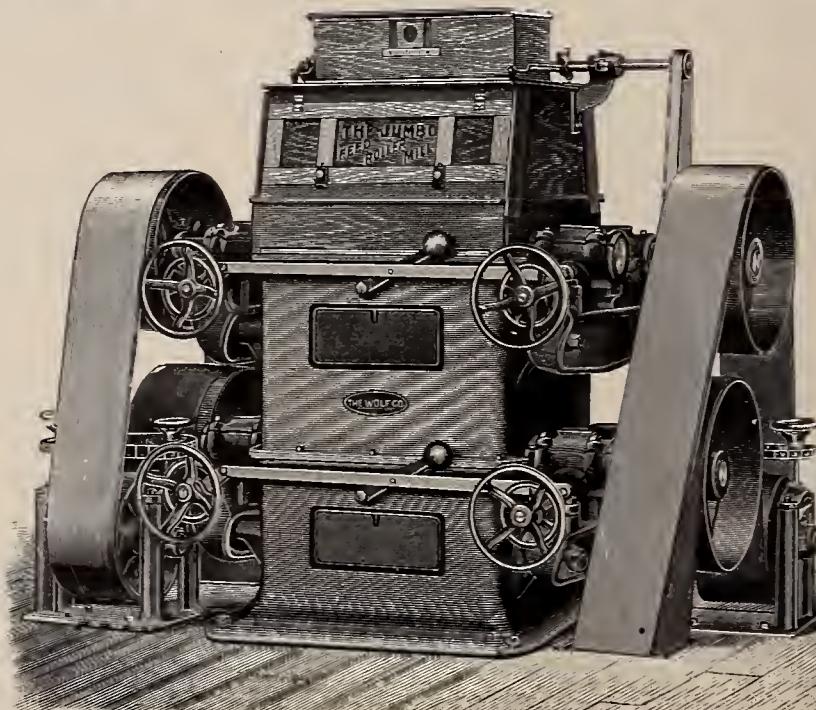
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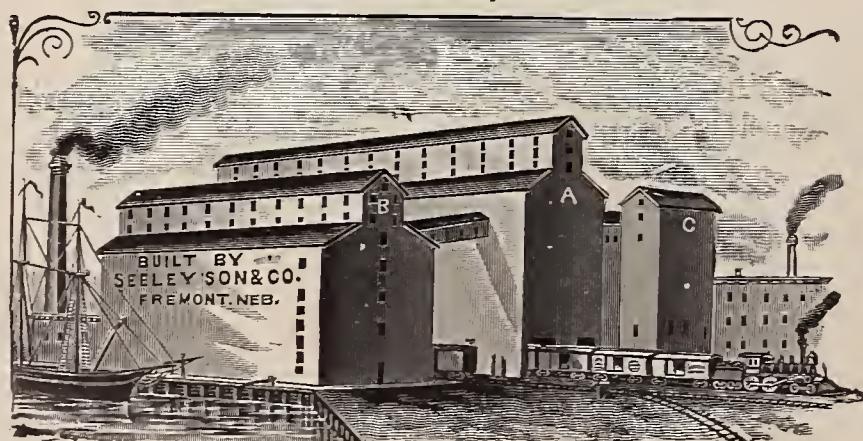
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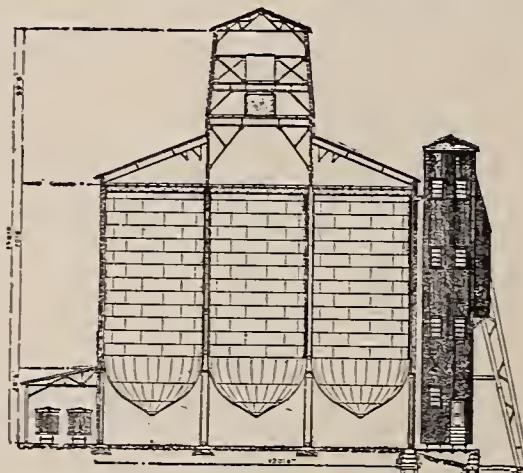
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1811 FISHER BUILDING

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We also do general contracting, and have offices in the following cities.

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Grain Elevators

Fireproof
Brick
Construction
A Specialty

Country or Terminal Elevators
in any Design or Capacity

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E. A. BRYAN CO.



Designers and Builders of Any Kind of
STEEL ELEVATORS

Chicago Office:

1018 First National Bank Bldg.

Works:
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On Belt Line connecting with
all Chicago Railways.

G. T. HONSTAIN

Successors to HONSTAIN BROS., Contractors and Builders of

GRAIN ELEVATORS

518 Corn Exchange Bldg.
MINNEAPOLIS, MINN.

Nebraska City & ILL. Ele. Co.

Chicago, 2,000,000

Bartlett, Frazier Co.

Chicago, 1,000,000

H. Rogers Co.

St. Louis, 500,000

F. H. Peavey & Co.

Minneapolis, 1,000,000

S. S. Linton & Co.

Minneapolis, 650,000

S. S. Linton & Co.

Minneapolis, 450,000

Interstate Grain Co.

Minneapolis, 500,000

City Elevator Co.

Minneapolis, 400,000

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Minneapolis, 400,000

Royal Milling Co.

Great Falls, Mont., 100,000

Jennison Bros.

Janesville, Minn., 100,000

Four hundred country elevators from 10,000 to 50,000.



Exchange Elevator built by G. T. Honstain, Minneapolis.
Fireproof storage capacity 250,000 bushels.
Working house capacity 150,000 bushels.

The BARNETT & RECORD CO.

416 CORN EXCHANGE, MINNEAPOLIS, MINN.

General Contractors and Designers of Grain Elevators, Mill Buildings, Docks and Warehouses.

We are prepared to use all of the various kinds of elevator construction, but recommend our special construction known as the Record-Johnson System Patent Fireproof Semi-Porus and Glazed Cellular Tile Grain Storage Construction, covered by the following patents and which we have exclusive control: Patents Nos 664323, 664324, 664325, 692544, 713104.



The following is a partial list of owners and capacity of plants which we have built in the last four years under these patents:

	Bushels.		Bushels.
Great Eastern Elevator, Minneapolis,	1,000,000	Northwestern Yeast Co., Chicago,	300,000
St. Anthony Elevator Co., "	2,200,000	Canadian Northern Ry. Co., Port	
North Star Malting Co., "	500,000	Arthur,	2,250,000
Victoria Elevator Co., "	250,000	David Stott Milling Co., Detroit,	200,000
Frisco Ry. Elevator, Kansas City,	700,000	Pabst Brewing Co., Milwaukee,	250,000

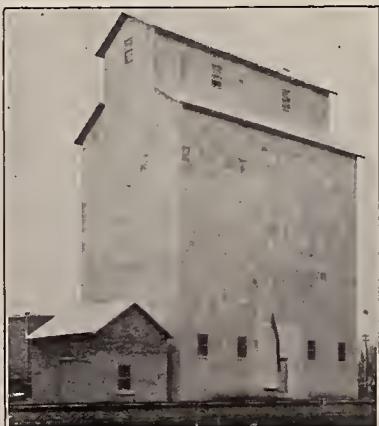
We have under construction at the present time the following plants:

Schlitz Brewing Co., Milwaukee,	550,000	Texas City Imp. Co., Texas City, Tex.,	500,000
Washburn-Crosby Milling Co., Buffalo,	300,000	Millbourne Mills Co., Philadelphia,	200,000

The following are a few of our largest wood-constructed elevators:

Calumet Elevator, Chicago,	1,000,000	Maple Leaf Elevator, Kansas City,	1,000,000
Minnesota Annex, Chicago,	1,000,000	Burlington Elevator, St. Louis,	1,000,000
C. St. P., M. & O. Ry. Co., Itasca,	1,125,000	Grand Trunk Elevator, Portland, Me.,	1,000,000
Belt Line Elevator, Superior,	2,500,000	F. H. Peavey & Co., No. 1,	1,750,000
Superior Terminal, Superior	2,500,000	Interstate Elevator, Minneapolis,	1,000,000
Pittsburg & West Ry., Fairport, O.,	1,000,000	Texas Pacific Ry. Co., Westwego, La.,	1,000,000
United States Milling Co., Duluth,	1,000,000	Hoosac Tunnel, Charlestown,	1,000,000
Empire Elevator Co., Minneapolis,	2,500,000	And hundreds of smaller houses.	

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WHY PASS US BY

when you are figuring on building a new elevator?

WE HAVE SUCCEEDED

in mastering the problems that arise in elevator building

WHERE OTHERS HAVE FAILED

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STEEL STORAGE and ELEVATOR CONSTRUCTION COMPANY
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1,000,000-bushel fireproof Grain Elevator constructed of steel, for the Harbor Commissioners of Montreal, Canada.

Twenty Million Bushels Capacity of Our Construction Now in Use.

NOTHING TOO LARGE

NOTHING TOO SMALL

THE HALL NON-CHOKABLE BOOT marks the highest point, in efficiency, that has ever been reached in elevating grain.

This letter tells the story.

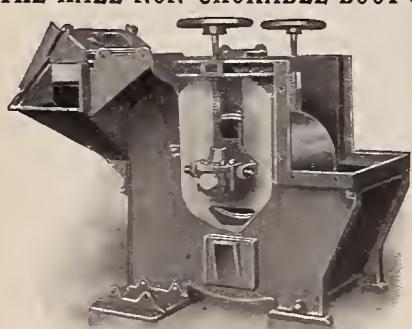
Luverne, Iowa, Sept. 20th, 1905.
HALL DISTRIBUTOR CO.—
Gentlemen:—You ought to name your appliance "The Grain Dealer's Dream," as it certainly does its work to perfection, and I have heard a dozen elevator men swear that they would give \$500.00 if they could fix their boots so they could not clog, and that is more than five times what you ask for a machine that does the trick and elevates the grain faster than was ever done with the old-style boot.

I was afraid at first to load the cups full, but when you wrote me the second time that the boot should be fed all the grain it would take, I tried it one day when I had 150 bushels of shelled corn in the dump, and pulled the gate wide open, and there certainly was "something doing" for five minutes, as the cups went up all loaded to overflowing.

Thanking you for prevailing on me to put in the boot, I am Yours, CHAS. A. PFUND.

SENT ON TRIAL
506 First Nat. Bank Bldg.
Omaha, Neb.

HALL DISTRIBUTOR CO.



16-inch pulley—16-inch face.
NON-CHOKING.

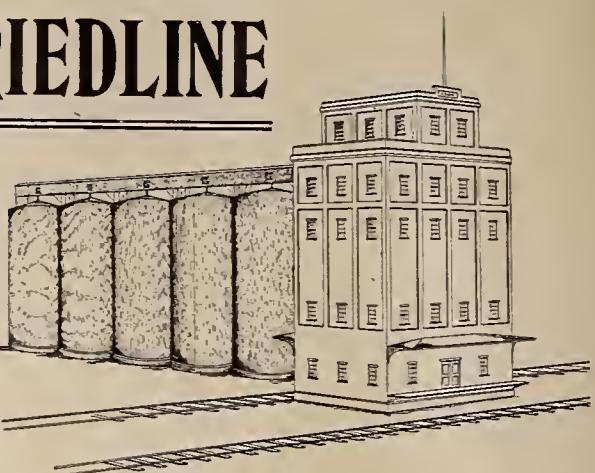
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COMPLETE Milling Plants, Power Plants and Heavy Construction. Plans and Specifications a Specialty. Correspondence Invited.

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Full Stock of Elevator and Mill Supplies and Scales

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"THE KNICKERBOCKER CYCLONE"

GRAIN NEEDS AIR

In cleaning grain use "AIR"—all you can without loss

"The New Cyclone 1905"

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Largely increases flow of air, reduces speed and cost of driving fans

All Steel Fireproof Collectors and Special Sizes Constructed on Orders

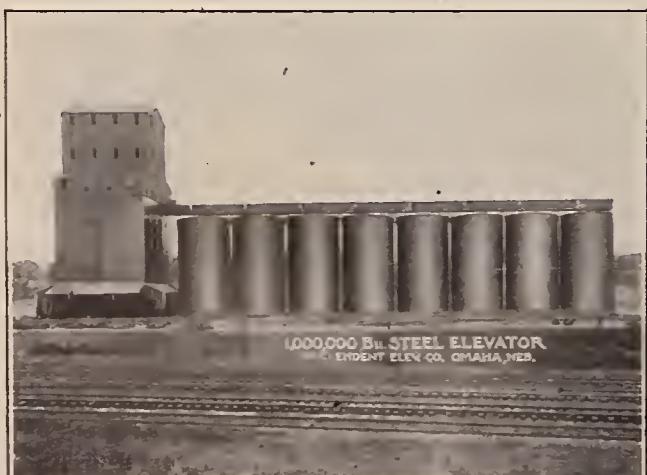
The Knickerbocker Co.
JACKSON - - MICHIGAN
Cable Address: "CYCLONE"

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STEEL ELEVATORS

Here is a picture of another of our Modern Fireproof Elevators just completed at Omaha, Neb. We have the Best Equipment in America for this work. Our Engineers have had experience and we can make everything in our own shops.



1,000,000 BBL. STEEL ELEVATOR
EDENT ELEV. CO., OMAHA, NEB.

We *DESIGN* the Plant
We *FABRICATE* and Erect the Steel
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*Designers and
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ELEVATORS
*in Wood, Steel
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Plans and specifications for elevators of all kinds and capacities furnished.

Write for further particulars

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ANY STYLE AND CAPACITY
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MINNEAPOLIS, MINNESOTA

H. L. THORNBURGH & CO.

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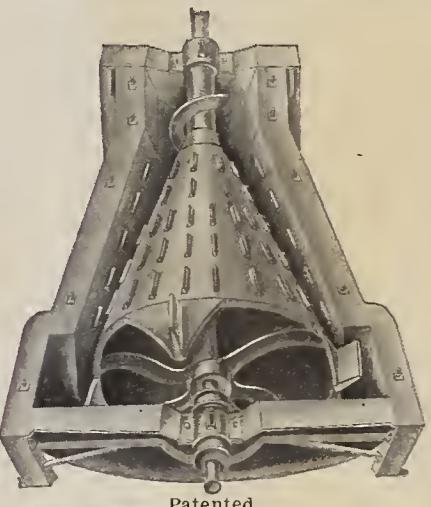
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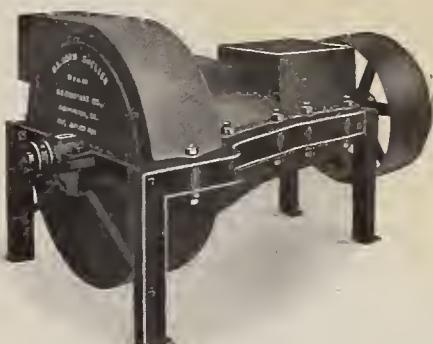
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See for yourself how it is constructed, making it the cheapest sheller you can buy. Blades don't crack corn, but deliver the corn, cob, silks and shucks in a most satisfactory way, right and left hand over, or same from underneath, thus avoiding a cross drive belt.

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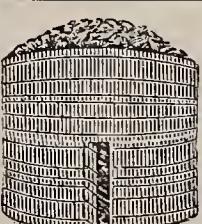


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If you buy the "BEST" scale your competitor cannot get a better one.

DO IT! IT'S GOOD BUSINESS FOR YOU.

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Sizes, 400 to 1,000 bu
Cheap and handy. Can be set up in ten minutes.
We also manufacture
Steel Grain Bins, Wire
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Jeffrey Standard Steel Elevator Buckets
For handling
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And for light and medium
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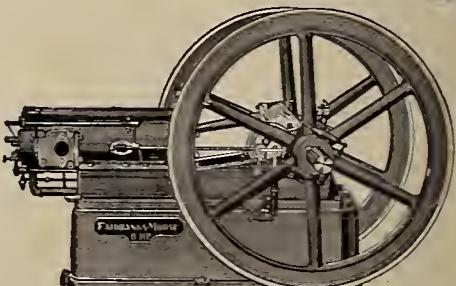
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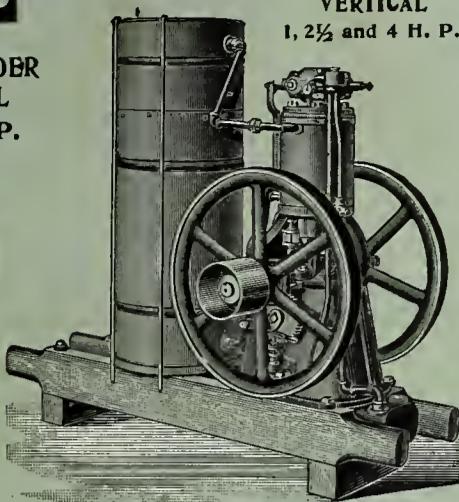
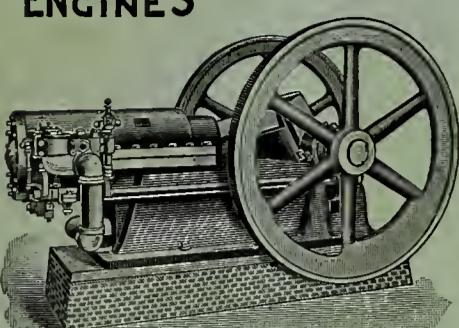
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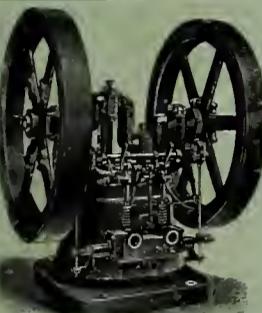
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LITTLE GIANT
VERTICAL
1, 2½ and 4 H. P.

NEW ERA HORIZONTAL GAS ENGINE. 2 H. P. LITTLE GIANT VERTICAL GASOLINE ENGINE ON SKIDS. Heavy and Substantial. First-class throughout. Thoroughly guaranteed.

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A Gasoline Engine

Which Anyone Can Run and Which is Effecting a Revolution in the Business. It is the "Master Workman." An upright engine with two cylinders. Superior to any one cylinder engine. It has no vibration and can work on a light wagon, or can be placed anywhere. All mechanism is in full view and all parts necessary. Starts easier and quicker than any one-cylinder engine. Has More Power, consumes less fuel, occupies less space, 2, 3, 4, 5, 6, 8, 10 and 16, 18, 20 Horsepower. Less complicated and has fewer parts than one cylinder engines. This is the 52d year of its manufacture, and Their Guarantee is absolutely to be relied upon. Every engine is sold on honor.

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THE TEMPLE PUMP CO., 15th Place, Chicago, U. S. A.
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Frost proof-easy starting-perfect cooling, small water supply, simplicity and economy are some of the special features of our engines. Adapted to all uses and built in three types. For ELEVATOR and FARM work it stands preeminent and in a class by itself.

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A magnificent electric-lighted train, less than three days Chicago to San Francisco, daily.

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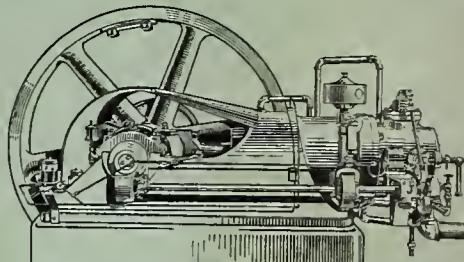
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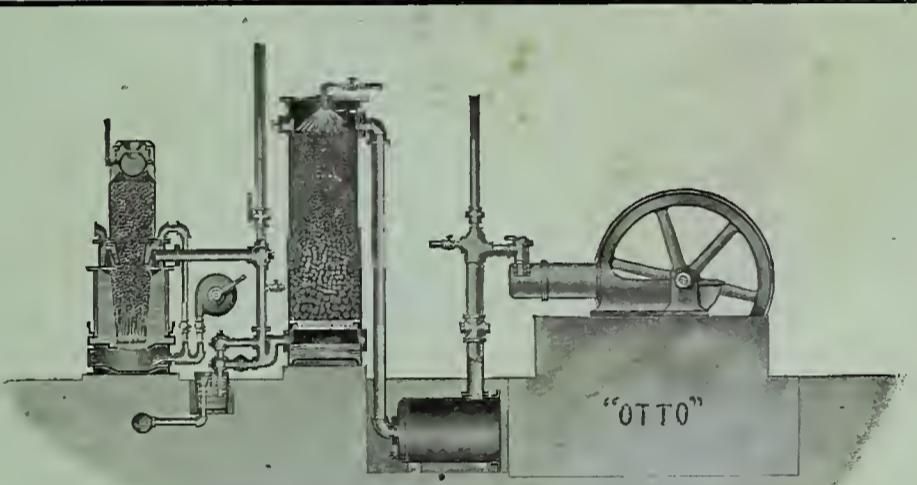
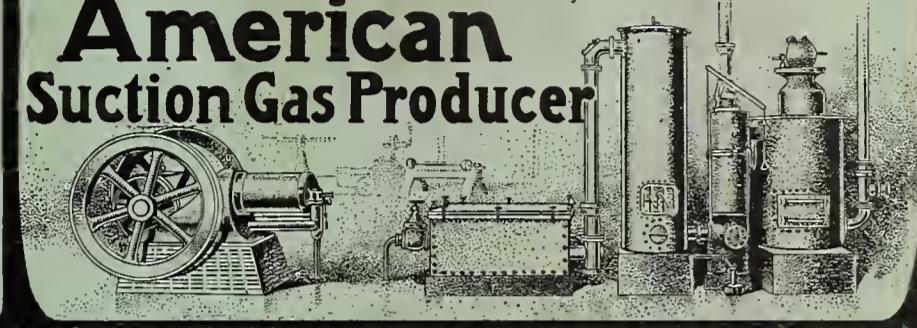
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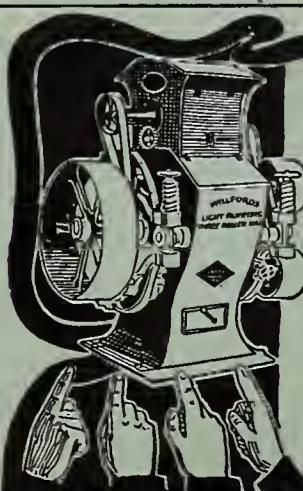


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- (1) It is Easy to Handle.
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Cozad, Neb., December 18, 1905.

Charter Gas Engine Co.,
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I will say this—that the Charter Engine will pull more, horse for horse, than any other engine I ever saw. Everyone that has seen my engine working says that it is the best engine that ever came to this locality.

Yours respectfully,
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CHARTER GAS ENGINE CO.

400 LOCUST STREET,

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Are You Interested in Equipment

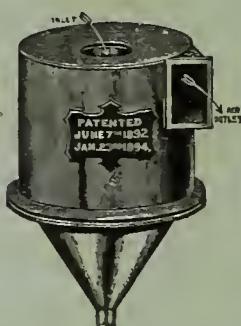
which reduces operating expenses? I have an appliance which will do the work now done by your fireman; will lessen the fuel bill, reduce the insurance rate, and in addition will give you a clean plant.

The expense of installing is nominal and I guarantee good returns on the investment. Write for booklet, describing my device.

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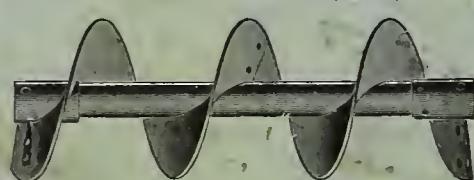
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Quality Endorsed by Quantity

Over 3,500 in actual use

The Webster “Steel Plate” Friction Clutch

It gives great power in small space.
It has large wearing surface and is easily
adjusted when worn.
Especially desirable for high-speed power.

Webster M'f'g. Co.

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Manufacturers of
**MODERN GRAIN ELEVATOR
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Two Large Factories

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CHICAGO OFFICE: 401 Monadnock Bldg.

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Manufactured exclusively by

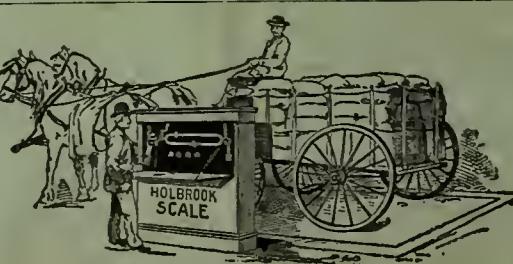
The Appleton Car-Mover Co.
APPLETON, WIS., U. S. A.

Is decidedly the best and most powerful Car-Mover on the market, and supersedes all others wherever introduced.

Try an “ATLAS.” It Will Pay for Itself in a Few Hours’ Use



CALLAHAN GAS and GASOLINE ENGINES



Grain Elevator Machinery
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